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Preliminary User View of Release A Data

Technical Paper

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Abstract

This technical note covers two topics. Firstly, it explains the role of the data modeling and engineering activity in ECS in supporting and defining data content and functionality at Release A. Secondly, the availability and accessibility of data at Release A is specified. Particular attention is paid to the middle and upper layers of the data "pyramid" in terms of their accessibility at Release A. A mapping from the V0 client to the core metadata is included as is a full data dictionary of the core metadata.

Keywords: metadata, V0, client, core, pyramid, model, user, preliminary

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1. Introduction

1.1 Purpose, Scope and Definitions

The purpose of this document is to aid those in the science community concerned with understanding the data engineering activities of the EOSDIS Core System (ECS) from the standpoint of the development of Release A content. This document focuses on descriptive or 'metadata' and represents essentially an annotated mapping from the ECS core metadata to the V0 IMS client as well as covering broader data implementation details.

Some familiarity with ECS is assumed although terminology is kept as general as possible. However, this document is written principally to explain certain key elements in the design and modeling activities of ECS and is not independent of other documentation.

In this document, a view is defined as a set of metadata and data groupings that enable users to obtain these data and related services in an comprehensible manner. There are several types of users; end users, data producers, operations staff and broader 'user services' users. This document is written to aid the end user to understand how the data model is being developed to support client functionality.

The information in this paper draws on a range of documents from SDR, PDR and the upcoming CDR. Information is referenced or summarized rather than repeated. In particular, what the user will see and be able to use at the ECS interface is covered by the CDR design documentation for the Client subsystem (DID305). This document does not repeat that design nor does it seek to provide a general user's guide for ECS. Instead it details the information content of the client derived from the underlying data model.

This document is informal, not for government review or approval and cannot be the subject of RIDs. Since this document is a reflection of other official documents, review of this document may initiate RIDs with respect to the official documents detailing additional information. It is up to the reader to identify the official document against which the RID should be submitted and then follow procedures accordingly.

1.2 Related Documents

This document is one of three which, amongst other things, serve to explain to the user community the meaning, value and usage of the science or user metadata collected and analyzed during 1994 for development of the core data model.

The two related documents which cover other aspects of metadata usage and population are:

Metadata Population Process for the ECS Project technical Paper.

WBS-420-TP-006-001   August 1995

An activity is in progress to define the process and effort involved in populating metadata as a whole.

SDP Toolkit Users Guide for the ECS Project , Metadata tools.

> 333-CD-003-001   July 1995

This details how the metadata tools are used within PGE software. These tools serve to manage and coordinate metadata attributes produced on a per granule basis by PGEs. A description of the full possible set of granule level metadata is included.

At release A, the V0 client is being used to provide access to ECS. The functionality and other information about the V0 client can be obtained at:

http://harp.gsfc.nasa.gov:1729/eosdis_documents/eosdis_home.html

Other documents referenced in this document are:

SDS   System Design Specification   194-207-SE1-001   June 1994

The architectural design of the system including a high level discussion of the data pyramid.

DID305   SDPS Subsystem Design Specification for the ECS Project
> 305-CD-0XX-001   July 1995

Describes the design elements which use the science metadata. The design object are 'external' to the database view and correspond to but do not detail the users view of metadata.

DID311   Science Data Processing Segment Database Design and Database Schema Specification for the ECS Project, Volume 1: Central Design Artifacts.

> 311-CD-002-001   July 1995

Specifies conceptual data models for all persistent ECS data, a data dictionary and database specification tables.

DID205   Science User's Guide and Operations Procedure Handbook for the ECS Project, Part 4: Software Developer's Guide to Preparation, Delivery, Integration and Test with ECS   205-CD-002-001   August 1995

This DID covers aspects of metadata population required as part of the AI&T process.

1.3   Organization

The second chapter of this document provides an overview of how the ECS data model relates to implementation using references to existing and new (CDR time frame) documents. The third chapter provides a more detailed view, at the attribute level, of the layers of the data pyramid and their availability at release A; specifically in terms of directory, inventory, guide etc.. Chapter four supplies the data dictionary for these attributes.

2. Overview of Data Model and User View

2.1 The Data Model

2.1.1 Introduction

The data pyramid (fig 2.1-1) is the start point of engineering analysis of ECS data. The layers in the data pyramid are described in general terms in the SDS and relate to widely understood groupings of metadata attributes (see glossary for definitions of directory, inventory, guide etc.) as well as various types of products and other system inputs and output. These are also known as Earth Science Data Types (ESDTs). These layers provide a user view of the data and contain attributes and other descriptive information, some being common across several layers and some of which are derived from other layers. The more traditional approach to these data is to separate data (products) from metadata which provide access keys to those products. However, the process of analyzing the pyramid as well as experience, shows that understanding and implementing a system which acknowledges interplay between layers is critical to providing a comprehensive data information system.

The process of collecting and analyzing requirements has lead to the generation of a model. This model consists of attributes grouped into a number of objects in seven modules; plus a data dictionary for the attributes. These are found in DID311. The model supports the access functionality between pyramid layers by describing at a conceptual level the relationships between data objects. It defines all of the upper and many of the middle layers of the pyramid where ECS has a specifying role. The model in DID311 is conceptual and its modules do not map directly to the pyramid layers. This is because the model is both normalized (repeated attributes and relationships are rationalized) as well as conceptual (having no pre-defined functionality or implementation). It is necessary to model in this way in order to exactly define information and relationships between attributes. This document does not detail the model. It is in fact unnecessary for users to understand the model, since it exists primarily to capture requirements and facilitate database implementation.

Table 2.1-1 contrasts the user view (pyramid) with the DID311 data model (also known as the 'core' model):

2.1.2 Implementation

To understand the implementation, a simple categorization of the layers into three is useful. This categorization does not imply rigid divisions but provides a means of understanding how the model is implemented from the user viewpoint. The categories are:

Metadata   Direct search keys to Middle layers and Products.

Middle layer Support, ancillary, background information and secondary/derived products, some providing sophisticated and derived search keys and summaries of the Products. Tend to be non- or only indirectly geolocated.
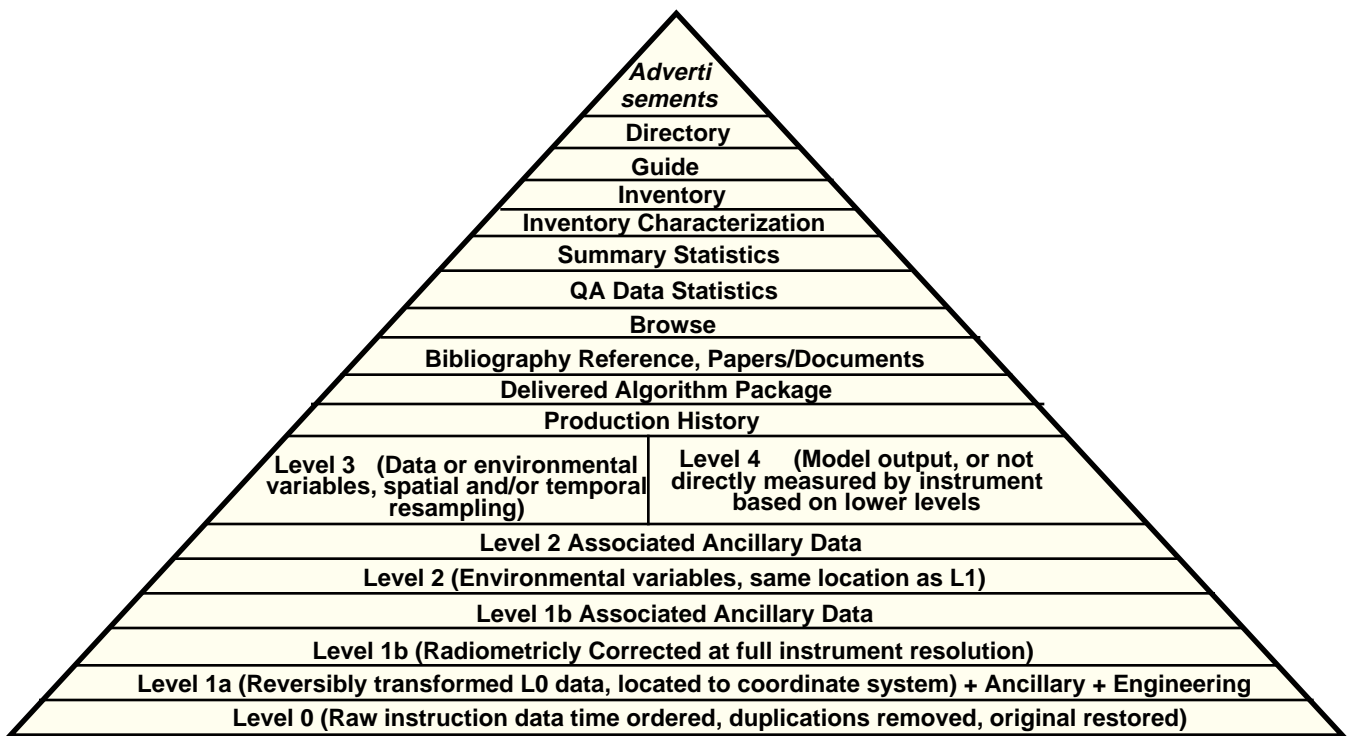
Products Primary generated data products plus level 0 inputs and geolocated ancillary data.

These categories will be implemented using technologies which complement their functionality and storage needs. In the ECS architecture, ESDTs are implemented using Computer Science Data Types (CSDTs) that are abstractions of physical structures. The CSDTs and the mapping between these CSDTs and the pyramid groupings described above are found in the table 2.1-2.

The rest of this document provides further specification of content and services for these categories.

Table 2.1-1. Contrasts between User View and Data Model

User View	Data Model
user view of data holdings.	rationalized view of data (especially metadata).
defines user required services.	required to (a) capture requirements (b) facilitate database implementation
can change through time (content of layers & availability/existence of layers) and from location to location.	static through time and space for given definitions of data.
metadata not normalized (the same attributes appear in multiple layers).	metadata normalized (attributes appear only once).
does not represent required relationships well.	shows exact relationships between data objects.

Figure 2.1-1. The Data Pyramid

Adverti sements
Directory
Guide
Inventory
Inventory Characterization
Summary Statistics
QA Data Statistics
Browse
Bibliography Reference, Papers/Documents
Delivered Algorithm Package
Production History

Level 3 (Data or environmental variables, spatial and/or temporal resampling)	Level 4 (Model output, or not directly measured by instrument based on lower levels

Level 2 Associated Ancillary Data
Level 2 (Environmental variables, same location as L1)
Level 1b Associated Ancillary Data
Level 1b (Radiometricly Corrected at full instrument resolution)
Level 1a (Reversibly transformed L0 data, located to coordinate system) + Ancillary + Engineering
Level 0 (Raw instruction data time ordered, duplications removed, original restored)

Table 2.1-2. Pyramid Layers and CSDTs

Pyramid layer category	Layers/ESDTs	CSDT
Metadata	Directory Inventory Inventory characterization *Advertisements*.	Access table.
Middle layer	Guide Summary statistics QA data statistics Reference papers Delivered algorithm package Production history Browse products Non-geolocated ancillary data	Documents Code N-Dimensional Array Science Data Table Image.
Products	Level 1,2,3,4 data Level 0 data Engineering data Geolocated ancillary data	Grid, Swath, Point N-Dimensional Array Science Data Table P=V Metadata ASCII Text.

Note: *advertisements* is added to the pyramid in this document only. It contains directory information plus other information including the services available on & applicable to the collection.

3. User Views of Data

3.1 Release A User Views

3.1.1 Introduction

As the Release A client uses the V0 system client, the visibility of the ECS core metadata set and other data is limited by the attributes which can be searched and retrieved through the V0 interface. However, the release A client will match and exceed the functionality of the V0 client in terms of the availability of certain data types. The functionality of the client is explained in V0 documentation (see section 1.2 above).

Each of the layers is described in table 3.1-1 in terms of its physical implementation and access path at release A.

3.1.2 Metadata

Metadata are implemented in database tables to allow for complex search operations to locate middle layer ESDTs and products. The groupings of attributes found in the database tables are derived from the normalized (core) model. This grouping of attributes and the table names both differ from the names of the layers of the pyramid and the attributes historically associated with them (e.g. content of directory and inventory). This is to be expected because the grouping of attributes into these layers is not the focus of data modeling (DID311), neither is it a part of design work (DID305). The design class covering the implementation of these layers has a single representative attribute known as 'ScienceMetadata'. The reason behind this single attribute is that the user views are configurable; i.e. not fixed within the design (this approach is also in line with higher level design drivers). It is however necessary to show, as a separate exercise here, how science metadata attributes gathered during the analysis phase and specified in the normalized model map into the pyramid layers.

The attributes used by the V0 client are found in tables below mapped against corresponding core metadata attributes. The tables are based on the content of messages passed from the V0 client to the database and include the parameters found on the V0 screen. The core metadata attributes are included in order to show how metadata generated by PGEs and by other means will be accessed through the V0 client as well as to demonstrate that the ECS model attributes support the client.

The tables (3.2-1 through 3.2-10) show the types of search and results in terms of the five groups: inventory, browse, directory, guide and product (product is product ordering for Levels 1-N). Grouped with each main search and result object are a number of subsidiary groupings which are optional or auxiliary to the main group (e.g. spatial location). Readers familiar with the V0 screen layout will recognize the structure and attributes. There are currently a number of cases where mappings cannot be made (marked ?). These are being investigated.

The advertising service also falls into this category. It is being developed incrementally and will be available at release A using a Web interface.

Inventory characterization is the final metadata related layer not represented in the V0 client. This is provided to allow advanced searching and aggregation of granules on selected phenomenon. A definition is found in the glossary. There is no explicit support for this view at release A.

Notes:

1. Directory in this context means the attributes for which searches can be made in the V0 interface. These attributes are similar to those in the GCMD DIF template although the DIF itself contains more information.

2. Extensions to inventory which include DAAC specific extensions are supported by local IMSs at DAACs. However, these are not available for search at the V0 system client; and hence will not be available at Release A of ECS. However, product specific results can be returned as 'additional information' (at the granule level).

3. Despite the fact that some of the core metadata and all product specific metadata will not be searchable through the V0 client at release A, these metadata will still be populated for release A products. This is in anticipation of the much extended release B client.

3.1.3 Middle Layers

The V0 client does not directly support production history, quality assurance (QA) statistics, summary statistics, reference papers, ancillary data or delivered algorithm package. The following sections indicate how these will be accessed at release A. Tables 3.12 - 3.17 specify searchable attributes for these layers.

3.1.3.1 Documents

Those layers such as guide, references papers and parts of the delivered algorithm package which are text based will be implemented in one of several text file formats and stored in a document data server along with production plans.

Where applicable, the specification of these documents is found partly in the core model (notably key searchable attributes used in access tables) and partly in the metadata population technical note. Additional analysis and specification work remains in some areas.

Services to the user at release A are:

• search for guide documents using key word and free text search followed by display (V0 client)

• search for other documents using key words followed by retrieval.

To perform the second of these, a forms based Web interface is being developed which will allow access to guide, reference paper, algorithm description (from delivered algorithm package) and production plans (not a part of the pyramid).

3.1.3.2 Non-document

QA statistics and summaries may be implemented in several formats such as science data tables. There are also QA measures built into the metadata model for use at granule and collection level. The granule level metadata produced by PGEs will be inserted into the inventory. However the QA statistics and summaries files are essentially outputs generated (optionally) by PGEs but alongside regular products. They can also be generated by the post-processing of products to extract (e.g.) time series assessments.

Production history is a complex output consisting of elements from the processing system itself as well as entries in the science product metadata field. Most of the attributes are produced in the data processing and planning subsystems (as parameters within log files) and are not found in the core metadata. Pointers to all inputs (ancillary, lower level products and engineering/orbit files) are also part of production history. The exact content of production history is still to be finalized.

Most of these middle layer ESDTs (excluding documents) will be made accessible through the use of the 'Processing Options' section of the V0 product order interface. This option will be used as a flag to indicate that the user requires the retrieval of production history, QA, summary statistics and dynamic ancillary data associated with the product granule being ordered. The existence of these options may be indicated at the granule level under 'granule information' returned by the DAAC and/or possibly for the collection as a whole in guide documentation.

The remainder of delivered algorithm package (non-document; including code, scripts, test files, static ancillary data etc.) will be available through an additional Web interface ('DAP Web' in table 3.1-1).

3.1.4 Products

The products layer group contains both generated products, level 0 and ancillary products. A table of products can be found in the technical baseline v2.1 where epochs c, d and e relate to the TRMM mission; i.e. RLS-A. In addition to these TRMM and TSDIS products, all V0 products will be available, either as migrated to ECS or remaining in the V0 system (the user should see no difference in content).

Most science products are expected to be implemented in one of the HDF structures with those from CERES and LIS being in HDF-EOS. Level 0 and some V0 products will remain in native formats.

The services available at Release A for these products will be insert, acquire and browse. Insert is an internal function to allow newly generated products to be inserted into the archive and its metadata to the inventory. Being internal, it is only of relevance to the data producer.

Acquire provides the ability to obtain products based on a selection of time and space metadata attributes (amongst others). The browse service provides a link from the product to its browse equivalent if it exists. At release A, acquire and browse will be realized through the V0 client interface using the V0 attributes (see metadata).

Table 3.1-1. Pyramid Layers , CSDTs and Accessibility at RLS-A

Pyramid category	Layers/ESDTs	CSDT	Physical Implementation	Interface/ Access path
Metadata	Directory	Access table.	Sybase Database tables.	search / retrieve via V0 Client
Metadata	Inventory	Access table.	Sybase Database tables.	search / retrieve via V0 Client
Metadata	Inventory characterization.	Access table.	Sybase Database tables.	none (except as pre-constructed)
Metadata	*Advertisements.*	Access table.	Sybase Database tables.	Advertising Web
Middle layer	Guide	Documents	HTML	search / display via V0 Client (or RLS-A Document Web)
Middle layer	Summary statistics	N-Dimensional Array, Science Data Table, ASCII text, Image.	HDF-EOS structures.	search / retrieve via V0 Client direct & via Processing Options
Middle layer	QA data statistics	(a) N-Dimensional Array, Science Data Table ASCII text, Image. (b) Access Table.	(a) HDF-EOS structures. (b) Sybase Database tables.	(a) retrieve via V0 Client (Processing Options) (b) retrieve via V0 Client (granule information)
Middle layer	Reference Papers	Documents	HTML, ASCII, RTF, PDF.	search / retrieve via RLS-A Document Web
Middle layer	Delivered Algorithm Package	(a) Documents, (b) Code, N-Dim. Array, Science Data Table, P=V Metadata, ASCII text.	(a) HTML, ASCII, RTF, PDF. (b) binary files; HDF-EOS structures.	(a) search / retrieve via RLS-A Document Web (b) search / retrieve via RLS-A DAP Web
Middle layer	Production Plans	Documents.	HTML, ASCII, RTF, PDF.	search / retrieve via RLS-A Document Web
Middle layer	Production History	(b) Documents (b) Access Tables.	(a) HTML, ASCII, RTF, PDF. (b) Sybase Database tables.	(a) retrieve via V0 Client (Processing Options) (b) retrieve as report via V0 Client (Processing Options)
Middle layer	Browse	N-Dim.array, Science Data Table, Image, P=V Metadata, ASCII text.	HDF-EOS RIS (palettes & lossy compression; 8 & 24 bit).	retrieve /display via V0 Client (Browse option)
Middle Layer	Non-geolocated ancillary & engineering Data	N-Dim.array, Science data table, Image, P=V Metadata, ASCII text.	HDF-EOS structures, Native formats.	(a) retrieve dynamic data via V0 Client (Processing Options) (b) retrieve static data via DAP Web interface
Products	Geolocated ancillary data	Grid, Swath, Point.	HDF-EOS structures, Native formats.	(a) search / retrieve /display dynamic data via V0 Client direct &/or via Processing Options. (b) retrieve static data via DAP Web interface
Products	Level 1,2,3,4 data; level 0 data; & engineering data.	Grid, Swath, Point; N-Dim.array, Science data table, Image, P=V Metadata, ASCII text.	HDF-EOS structures, Native formats.	search / retrieve /display via V0 Client (EOSView)

Note: production plans are not a part of the pyramid but will be available at Release A

3.1.4 Attribute Mapping Tables

The tables can be understood as follows:

V0 attribute   the attribute name used at the V0 interface.

Core metadata attribute   the attribute from the model (DID 311) equivalent to the V0 attribute.

The class in which each core attribute is found can be traced via the data dictionary in this document.

The V0 related tables cover only science metadata attribute mappings. There are a number of system related attributes used at the V0 interface (e.g. status) which are not mapped here.

Tables 3.2.1 through 3.2.10 show the search and results for each metadata group (and product ordering) for the V0 client. Of the 'middle layer' ESDTs available, production history is detailed because this view is ECS specified. Guide and other documents and the delivered algorithm package are also included in terms of attributes which may be searched on to locate these documents. QA files are data producer specified and generated and will be returned with regular product granules via Processing Options. Ancillary and engineering data and other inputs are similarly treated, and none has a search or results table associated with it.

The tables 3.2-12 through 3.2-16 relate to the Web interfaces for guide, reference papers, algorithm description (including documents from delivered algorithm package) and production plans. A separate Web interface (DAP) may be developed for the non-document portion of the delivered algorithm package.

Table 3.2-17 is a summary of the tables in terms of a comparison between search attributes.

Table 3.2-1. Inventory Search Attributes (1 of 2)

V0 Attribute	Core Metadata Attribute	Notes
Campaign	Campaign Name	
Data set ID	Longname	
Sensor Name	Data Originator Short Name	
Source Name	Platform Short Name	
Start Date/Time	Range Beginning Date	
	Range Beginning Time	
Stop Date/Time	Range Ending Date	
	Range Ending Time	
Start day of year	?	This is part of continuous time range which allows repeated selection of part of year from a range. ...
Stop day of year	?	...The ECS regular periodic class can simulate it, but has a different functionality than V0 day_of_year
Day night	Non Core Attribute Name	assumed mapping, needs additional analysis
Processing Level	Processing Level ID	
Parameter	Parameter topic	
SPATIAL LOCATION		optional set for geographic identification

Table 3.2-1. Inventory Search Attributes (2 of 2)

V0 Attribute	Core Metadata Attribute	Notes
Global granules only	Locality name	assumed mapping, needs additional analysis (really a flag, not a spatial measure).
Global	S/N/E/W Bounding coordinates	fixed +/- 90 latitude and +/- 180 longitude
Range Location (Rectangle)		optional set for geographic identification
South Latitude	South Bounding Coordinate name	
North Latitude	North Bounding Coordinate name	
East longitude	East Bounding Coordinate name	
West longitude	West Bounding Coordinate name	
Point and Range (XHairs)		optional set for geographic identification
Latitude	South Bounding Coordinate name	
	North Bounding Coordinate name	
Longitude	East Bounding Coordinate name	
	West Bounding Coordinate name	
Longitude distance	?	
Latitude distance	?	
Point Location		optional set for geographic identification
Latitude	Point Latitude	
Longitude	Point Longitude	
Polygon Location (Four corners)		optional set for geographic identification
Latitude	GRing Point Latitude	
Longitude	GRing Point Longitude	
Pole included		a control rather than an attribute
Map projection type	Map Projection Name	

Note: the advertising service will have search attributes similar to those of the directory service.

Table 3.2-2. Inventory Results

V0 Attribute (screen parameter)	Core Metadata Attribute	Notes
Data Center ID	Contact Organization Name	
	Role	
DATASET		
MD Entry ID	?	RLS-A temporary attribute required
Data Set ID	Longname	
Restriction	Access Constraints	
Browse Product Description	Description	
GRANULE		
Granule ID	UR of ECS Data Object	not explicitly referenced in the data dictionary
Start Date/Time	Range Beginning Date	
	Range Beginning Time	
Stop Date/Time	Range Ending Date	
	Range Ending Time	
Browse Type	UR of ECS Browse Granule	
Comment	Description	
Package ID	?	
SPATIAL LOCATION		
Point Location		as search, although actual values may be different...
Polygon Location (Four corners)		...from those in search because these are granule specific.
Range Location (Rectangle)		ditto

Table 3.2-3. Browse Request (Search)

V0 Attribute (screen parameter)	Core Metadata Attribute	Notes
Data center ID	Contact Organization Name	
	Role	
Browse type	UR of ECS Browse Granule	
BROWSE_GRANULE		
Data set ID	Shortname	
Granule ID	UR of ECS Data granule	not explicitly referenced in data dictionary
CONTACT_ADDRESS		obtained automatically from user profile (non searchable).
Title		no match
Last Name	Contact Name	
First Name	Contact Name	
Middle Initial	Contact Name	
Organization	Contact Organization Name	
Address	Street Address	
City	City	
State	State/Province	
Zip	Postal Code	
Country	Country	
Phone	Telephone Number	
	Telephone Number Type	
Fax	Telephone Number	
	Telephone Number Type	
Email	Electronic Mail Address	
USER AFFILIATION		
Category		
Type		

Table 3.2-4. Browse Result

V0 Attribute (screen parameter)	Core Metadata Attribute	Notes
INTEGRATED BROWSE RESULT		
Data Center ID	Contact Organization Name	
	Role	
IMAGE		
Data set ID	Longname	
Granule ID	UR of ECS data granule	not explicitly referenced in data dictionary
Image ID		
Image Size	Size MB ECS Data Granule	
FTP BROWSE RESULT		
Data Center ID	Contact Organization Name	
	Role	
Total File Size	Size MB ECS Data Granule	
DAAC CONTACT ADDRESS		as search

Table 3.2-5. Directory Search

V0 Attribute (screen parameter)	Core Metadata Attribute	Notes
Campaign	Data Originator Short Name	
Data set ID	Longname	
Sensor Name	Data Originator Short Name	
Source Name	Platform Short Name	
Range Location (Rectangle)		optional set for geographic i.d. (as inventory set)
Start Date	Range Beginning Date	
	Range Beginning Time	
Stop Date	Range Ending Date	
	Range Ending Time	
Parameter	Geophysical parameter keyword	

Table 3.2-6. Directory Result

V0 Attribute (screen parameter)	Core Metadata Attribute	Notes
Data Center ID	Contact Organization Name	
	Role	
DATASET		
Data Set ID	Longname	
MD Entry ID	?	
Orgs Center	Contact Organization Name	
	Role	
	Data Originator Short Name	

Table 3.2-7. Product Request

V0 Attribute (screen parameter)	Core Metadata Attribute	Notes
Data Center ID	Contact Organization Name	
	Role	
Request ID	system attributes	
Initial User Key	system attributes	
LINE ITEM		
Data set ID	Longname	
Processing Option	system attributes	access to middle layers
BILLING ADDRESS		as CONTACT_ADDRESS
SHIPPING ADDRESS		as CONTACT_ADDRESS

Table 3.2-8. Product Result

V0 Attribute (screen parameter)	Core Metadata Attribute	Notes
Data Center ID	Contact Organization Name	
	Role	

Table 3.2-9. Guide Search (V0 interface)

V0 Attribute (screen parameter)	Core Metadata Attribute	Notes
Campaign	Data Originator Short Name	Specific sensor guides can be obtained through the valids as 'guide' (doctype = campaign)
Data set ID	Longname	Specific sensor guides can be obtained through the valids as 'guide' (doctype = data set)
Sensor Name	Data Originator Short Name	Specific sensor guides can be obtained through the valids as 'guide' (doctype = sensor)
Source Name	Platform Short Name	Specific source guides can be obtained through the valids as 'guide' (doctype = source)
Parameter	Geophysical parameter keyword	
Data Center ID	Contact Organization Name and Role	Specific sensor guides can be obtained through the valids as 'guide' (doctype = data center)

Table 3.2-10. Guide Result (V0 interface)

V0 Attribute (screen parameter)	Core Metadata Object	Notes
n/a	Data Center Guide	a hypertext document
n/a	Data Set Guide	a hypertext document
n/a	Sensor Instrument Guide	a hypertext document
n/a	Source Platform Guide	a hypertext document
n/a	Project Campaign Guide	a hypertext document

Table 3.2-11. Production History Result

Returned file type	Core Metadata Attribute	Notes
database search report	EOSInputgranuleUR	ID of input file(s) used (e.g.L0), not explicit in data dictionary
database search report	AncillaryInputUR	ID of ancillary input file(s) used (e.g.NMC)
database search report	OrbitParametersUR	ID of orbit parameters file(s) used (example of engineering data)
Processing history log	various	

Notes: 1. production history will probably be returned as as 2 files, not a screen display.

2. the input IDs are found in the processing history in general terms for many products. Exact input IDs for the granule are located in the product headers and extracted by a search from the inventory record.

Table 3.2-12. Document Search (Release A Document Web Interface)

Document type (object group)	Searchable attribute	Notes
Document	URL	for all documents (inherited attribute)
Document	Title	for all documents (inherited attribute)
Document	Document Version	for all documents (inherited attribute)
Document	Document Created	for all documents (inherited attribute)
Document	Document Updated	for all documents (inherited attribute)
Document	Document Inserted	for all documents (inherited attribute)
Author	Author Name	for all documents (inherited attribute)
Author	Author Affiliation	for all documents (inherited attribute)
Guide	Guide Name	for all guide documents (inherited attribute)
Guide	Data Center	for all guide documents (inherited attribute)
Data CenterGuide	DataCenterName	
SourcePlatformGuide	Data Originator Short Name	
SensorInstrumentGuide	Sensor Short Name	
ProjectCampaignGuide	Campaign Name	
DataSetGuide	Data Set Name	
ProjectSubsettingInstrumentGuide	Storage Strategy	
ProjectSubsettingInstrumentGuide	Format Name	
RegionalAreaDefinitionGuide	Geographical Region Name	
RegionalAreaDefinitionGuide	Geographical Region Location	keyword only - spatial indexing for documents is not included at RLS-A.
RegionalAreaDefinitionGuide	Geographical Normal Weather	
RegionalAreaDefinitionGuide	Geographical Region Topography	
RegionalAreaDefinitionGuide	Geographical Region Vegetation Cover	
RegionalAreaDefinitionGuide	Geographical Regional landuse cover	

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**Table 3.2-13. Algorithm Description Document Search
(Release A Document Web Interface)**

Document type (object group)	Searchable attribute	Notes
System Description	System Description Name	from AlgorithmDescription
Processing FileDescription	Processing FileDescription Name	
ATBD	ATBD Name	
TestPlan	Test Plan Name	
OperationsManual	Operations Manual Name	
SWDevelopmentStandard	SWDevelopmentStandard Name	
ProgrammersGuide	Programmers Guide Name	
DetailedDesign	Detailed Design Name	
PerformanceTestResult	Performance Test Results Name	

Table 3.2-14. Reference Paper Search (Release A DocumentWeb Interface)

Document type (object group)	Searchable attribute	Notes
ReferencePaper	Reference Paper Type	
ReferencePaper	Reference Paper ID	
ReferencePaper	Publication Date	
JournalArticle	Journal Article Name	

Notes: 1. V0 also allows access to reference papers via hyperlinks from guide documents.

Table 3.2-15. Production Plan Search (Release A Document Web Interface)

Object group	Searchable attribute	Notes
Production Plan	DAAC Name	
Production Plan	Start Date	
Production Plan	End Date	
Production Plan	Forecast	
Production Plan	Planned Data Sets	

Table 3.2-16. Delivered Algorithm Package (non-Document) Search (Release A 'DAP' Web Interface)

Object group	Searchable attribute	Notes
DeliveredAlgorithmPackage	Algorithm Package UR	
DeliveredAlgorithmPackage	Algorithm Package Name	
DeliveredAlgorithmPackage	Algorithm Package Version	
DeliveredAlgorithmPackage	Algorithm Package Maturity code	
DeliveredAlgorithmPackage	Algorithm Package Acceptance Date	
DeliveryContentList	Delivery Contents List Filename	
Context Diagrams	Context Diagrams Filename	
Software	Date SW last modified	
PGE	Date PGE last modified	
ErrorLog	?	

Table 3.2-17. Searchable Attributes

V0 Searchable Attribute	Inventory	Directory	V0 Guide
Data Center ID	√	√	√
Sensor Name	√	√	√
Source Name	√	√	√
Start Date	√	√	
Stop Date	√	√	
Start day of year	√		
Stop day of year	√		
Day night	√		
Processing Level	√		
Parameter	√	√	√
Global granules only	√		
South Latitude	√	√	
North Latitude	√	√	
East longitude	√	√	
West longitude	√	√	
Latitude distance	√		
Longitude distance	√		
Latitude	√		
Longitude	√		

3.2   Release B User Views

The release B user views will be accessible through the ECS client. In comparison to the release A views, there will be a number of significant increases in data content and functionality:

• more attributes on which to search at the inventory and directory level.

• product specific attributes on which to search.

• a single interface for science and document products.

• fluid navigation between the views.

• many additional services on retrieved products.

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4. Data Dictionary

4.1 Dictionary listing in Alphabetic Order

The dictionary is listed in alphabetic order by attribute. The class name is that found in the DID311 object models. Some attributes have domains which include product specific values.

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
0[verticalcount}1	The maximum number of raster objects along the vertical (z) axis. For use with rectangular volumetric raster objects (voxels).	RastorObject Information	FGDC 6/8/94	int		
ATBDName	Contains the name of the ATBD algorithm description.	ATBD		char(64)		
AbscissaResolution	The (nominal) minimum distance between the 'x' or column values of two adjacent points, expressed in Planar Distance Units of measure.	CoordinateR epresentation		real	Abscissa Resolution > 0.0	
AccessConstraints	Restrictions and legal prerequisites for accessing the collection. These includ e any access constraints applied to assure the protection of privacy or intellec tual property, and any special restrictions or limitations on obtaining the coll ection.	SingleTypeC ollection	FGDC 6/8/94	char(255)	None	This is the default value, assuring the user that no restrictions apply.
AddressType	The type of information provided by the address, whether representative of where postal material should be sent, or where items such as media/parcels should be sent (i.e. shipping address), or where the individual or organization should be visited in person.	ContactAddr ess	FGDC 6/8/94	char(30)	Mailing Address	
					Physical Address	
					Mailing and Physical Address	
AdvertisementUR	Collection level pointer to Advertisement object.	Advertiseme nt	ESDIS Analysi s, 6/29/95	UR type		
AggregationAttrib ute	This attribute will contain the criteria by which this collection has been group ed. It will describe the major categorization which applies to the data therein . Possible collection groupings include: INSTRUMENT, for all data associated wi th a given collecting instrument such as CERES--this is a common aggregation cri teria for ECS 'datasets'; PROJECT, for all data associated with a given project	MultipleType Collection	DMWG 8/31/94	char(20)	INSTRUMEN T	
					PROJECT	
					PARAMETE R	

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					SUPERGRA NULE	
					EVENT	
AggregationRelat ionship	This attribute identifies the relationship between the aggregation attribute and its corresponding value. This relationship may be expressed as boolean operati ons i.e. '=, <, >, ne'	MultipleType Collection	DMWG 8/31/94	char(1)		
AggregationType	This attribute identifies the aggregation type by which the collection has been grouped.	MultipleType Collection	Dataser ver subsyst em analysi s, 6/19/95	char(10)		
AggregationValu e	This attribute contians the value associated with the aggregation attribute. An example may be EVENT (aggregation attribute) = MIDWEST FLOOD '93 (attribute value). MIDWEST FLOOD '93 would be the value associated with the event or aggregation attribute.	MultipleType Collection	DMWG 8/31/94	char(80)		
AlgorithmPackag eAcceptanceDate	This attribute specifies the date that this package version successfully passed AI&T procedures and was accepted as ECS standard algorithm.	DeliveredAlg orithmPacka ge	CEOS catalog ue subgro up			
AlgorithmPackag eIntendedOperati ngSystem	This attribute specifies the operating system required to execute the algorithm software, naming the OS, its version, and the pllatform. This attribute provides the user with the ability to determine whether it is feasible to order this package and run in their own environment.	DeliveredAlg orithmPacka ge	scenari o			
AlgorithmPackag eMaturityCode	This specifies the maturity of the algorithm package as a whole. Maturity code plus version number tells version: pre-launch, preliminary, operational, stable, final.	DeliveredAlg orithmPacka ge	Dozier, IWG 1991		pre-launch	preflight development code
					preliminary	EOS platform is flying development code at best; frequently changing, not stable
					operational	production code, will change, but not frequently; preliminary validation has bee n done.
					stable	code stable and has been fully validated.
					final	final version of code, mission is over.
AlgorithmPackag eName	This attribute is the name given to the complete delivered package submitted for algorithm integration and test.	DeliveredAlg orithmPacka ge	ECS CDRL item DID205 V0.8			
AlgorithmPackag eVersion	This attribute specifies the version of the full package being delivered.	DeliveredAlg orithmPacka ge	ECS CDRL Item DID 205 V0.8			

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
AltitudeDatumName	The identification given to the level surface taken as the surface of reference from which altitudes are measured.	AltitudeSystemDefinition	FGDC 6/8/94	char(40)	National Geodetic Vertical Datum of 1929	
					North American Vertical Datum of 1988	The identification given to the level surface taken as the surface of reference from which altitudes are measured.
AltitudeDistanceUnits	Units in which altitudes are recorded.	AltitudeSystemDefinition	FGDC 6/8/94; Version 0; CERES /ERBE/ LaRC metadata	char(20)	meters	
					feet	
					millibars	Used to measure pressure levels.
					theta value	Units used to measure geopotential height.
					cloud layer	For products containing atmospheric properties at several cloud layers, such as CERES data.
					atmosphere layer	e.g. troposphere, TOA, stratosphere, surface
					km	Kilometers. Product specific for LARC_ISCCP, SAGE_ATMOS_DYN, and SAGE_ATMOS_COMP.
					m	Meters. Product specific for LARC_FIRE.
AltitudeEncodingMethod	The means used to encode the altitudes. Mandatory whenever the value of Altitude Distance Units is 'atmosphere layers', to make sure that the user/reader will know how Top Of Atmosphere (TOA) is defined for this data.	AltitudeSystemDefinition	FGDC 6/8/94; CERES data analysis	text(255)	Explicit elevation coordinate included with horizontal coordinates	
					Implicit coordinate	
					Attribute Values	
AltitudeResolution	The minimum distance possible between two adjacent altitude values, expressed in Altitude Distance Units of measure.	AltitudeSystemDefinition	FGDC 6/8/94	real	Altitude Resolution > 0.0	
					1	Product specific for SAGE_ATMOS_DYN and SAGE_ATMOS_COMP.
					250	Product specific for LARC_ISCCP.
					75	Units in which altitudes are recorded. Product specific for LARC_FIRE.
AncillaryInputUR	Represents a granule level pointer to the ancillary input data information.	AncillaryInputGranule	Subsystem analysis, 6/95	UR type		

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
Author Name	The name of the author of the document.	Author		char(64)		
AuthorAffiliation	The name of an agency or center with which the author of the document works for or is affiliated with.	Author		char(64)		
AuthorEmailAddress	The email address specification where the document author may be reached electro nically. e.g. 'document-author@instrument.msfc.gov'	Author		char(64)		
AutomaticQuality Flag	The collection and granule level flag applying both generally and specifically t o parameters at the granule level.	QACollection Stats	Post DMWG Meetin g on QA, 6/21/95	char(20)	{parameter name} passed	The collection or granule (for {parameter}) has passed a specified automatic tes t.
					{paramter name} failed	The collection or granule (for {parameter name}) has failed a specified automati c test.
					N/A	
BearingReferenc eDirection	Direction from which the bearing is measured.	Distanceand BearingRepr esentation	FGCD 6/8/94	text	North	
					South	
BearingReferenc eMeridian	Axis from which the bearing is measured.	Distanceand BearingRepr esentation		text	Assumed	
					Grid	
					Magnetic	
					Astronomic	
					Geodetic	
BearingResolutio n	The minimum angle measurable between two points, expressed in Bearing Units of m easure.	Distanceand BearingRepr esentation		real	Bearing Resolution > 0.0	
BearingUnits	Units of measure used for angles.	Distanceand BearingRepr esentation		text	Decimal degrees	
					Decimal minutes	
					Decimal seconds	
					Degrees and decimal minutes	
					Degrees, minutes, and decimal seconds	
					Radians	
					Grads	
BibliographicRef	This attribute contains a full as published citation of this reference and descr ibes how to obtain it.	References				
BoundaryData	Data which defines the boundary conditions within which the model is valid. e.g. Bouys, ships, etc.	NonInstrume nt	Engine ering judgem ent	char(25 5)		

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
CalendarDate	The year (and optionally month, or month and day). This attribute is used to sp ecify a single date covered by a data collection, granule, or event. In the GSFC _CZCS this date relects the date and time of the first scan of the scene GSFC AVHRR Granule Revision Date reflects the date of last revision of granule m etadata	SingleDateTime	FGDC	date	UNKNOWN	If the date is not available, the textual value 'unknown' can be entered instead of a given date.
CalibrationQuality	TBD	CalibrationFiles	TRMM			
CampaignKeyword	This attribute specifies a word or phrase which serves to summarize the scientif ic discipline(s) in which the field campaign specializes. It may be repeated to accomodate multiple disciplines.	FieldCampaign	DMWG	char(80)		
CampaignName	Contains the name of the Project Campaign guide document.	ProjectCampaignGuide		char(64)		
CampaignName	The name of the field campaign or project which is responsible for providing the data.	FieldCampaign	Engineering Judgement, DMWG	ref. Document mod.		
CampaignProjectStartDate	Date when project or campaign began its data collection activity.	FieldCampaign	engineering judgement	date		
CampaignProjectStopDate	Actual or projected date when campaign or project ceases its data collection act ivity.	FieldCampaign	engineering judgement	date		
CenterLatitude		Circle		real		
CenterLongitude		Circle		real		
CitationforExternalPublication	The recommended reference to be used when referring to this collection in public ations. Its format is free text, but should include: Orginator (the name of an organization or individual that developed the data set, where Editor(s)' names a re followed by (ed.) and Compiler(s)' names are followed by (comp.)); Publicati on date (the date of publication or release of the data set); Title (the name by	SingleTypeCollection		char(255)		
City	The city of the address.	ContactAddress	FGDC 6/8/94	char(30)	free text	
ColumnCount	The maximum number of raster objects along the abscissa (x) axis. For use with rectangular raster objects.	RastorObjectInformation	FGDC 6/8/94	int	Column Count > 0	
ContactInstructions	Supplemental instructions on how or when to contact the individual or organizati on.	Contact	FGDC 6/8/94	free text		
ContactJobPosition	The title of the individual.	ContactPerson	FGDC 6/8/94	text	Team Leader	For product specific MSFC_TSDIS TRMM, MSFC_PR_L0_L1. MSFC_TMI_L0_L1 TRMM, MSFC_R ADAR_TAPES_L0_L1, GSFC_TRMM, GSFC_VIRS_L0_L1.

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
ContactName	The name of the individual to which the contact role (producer, archiver, distri butor, or source) applies. Persons are included as points of contact, rather th an an organization, in cases where the association of the person to the data set is more significant than the association of the organization to the data set. They may also be included if both a single person and organization are provided	ContactPerso n	FGDC 6/8/94 (Contac t Person Primary)	text		
ContactOrganizat ionName	The organization and the member of the organization, associated with the data se t. Used in cases where the association of the organization to the data set is m ore significant than the association of the person to the data set.	ContactOrga nization	FGDC 6/8/94	text	Free Text	
Country	The country of the address	ContactAddr ess	FGDC 6/8/94	char(10)	Free Text	The country of the address.
DAACName	The name of the Distributed Active Archive Center which is responsible for the p roduction plan.	ProductionPl an		char(8)	GSFC	Goddard Space Flight Center
					JPL	Jet Propulsion Laboratory
					LaRC	Langley Research Center
					MSFC	Marshall Space Flight Center
					NSIDC	National Snow and Ice Data Center
					EDC	Eros Data Center
					ORNL	Oak Ridge National Laboratory
					ASF	Alaska SAR Facility
					CIESIN	Consortium for International Earth Science Information Network
DIFID	This attribute contains the ID for the Directory Interchange Format.	ECSCollectio n	ESDIS, Subsys tem Analysi s, 6/29/95	char(8)		
DataCenter	The data center supporting the information for which the guide is applicable.	Guide		char(8)		
DataCenterName	Contains the name of the Data Center guide document.	DataCenterG uide		char(64)		
DataCenterSourc eofInputFiles	List of data centers generating the input files	Input	TRMM			
DataOriginatorKe yword	This attribute specifies a word or phrase which serves to summarize the scientif ic discipline(s) in which the data originator specializes. It may be repeated t o accomodate multiple specialties.	DataOriginat or	Scenari os, Data Engine ering; GCMD	char(80)	DIF Manual Appendix C	
					CZCS	Product_specific for: GSFC_CZCS_L0/L1
DataOriginatorLo ngName	Full expansion of the name of the originator providing measurements for the data collection.	DataOriginat or	EOS Handbo ok; V0; V0 Data Diction ary	char(80)	Cloud & Earth's Radiant Energy System	Product-specific for: ceres_erp, ceres_l0/l1

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					Total Ozone Mapping Spectrometer	Product-specific for: GSFC_TOMS_ATMOS_COMP
DataOriginatorShortName	Abbreviation, acronym, or other common name by which the source of the data is known.	DataOriginator	EOS Handbook; V0; V0 Data Dictionary	char(20)	Sage-2	Product-specific for: sage_atmos_dyn, sage_atmos_comp
					AVHRR	Product-specific for: LARC_ISCCP, GSFC_AVHRR_LAND_SFC
					MIR	Product-specific for: LARC_ISCCP
					VISSR	Product-specific for: LARC_ISCCP
					Analyses	For product CI2-Maps Product-specific for: LARC_FIRE
					Lidar	For Product CI2-Doplr,LARC8,Raman Product-specific for: LARC_FIRE
					Rawinsondes	For product CI2-Class,NWS_IN_SND,NWS_OUT_SND Product-specific for: LARC_FIRE
					Radar	For product CI2_WPL_Radar Product-specific for: LARC_FIRE
					CERES	Product-specific for: ceres_erp, ceres_l0/l1
					Erbe Non Scanner	Products: ,S-10_MFOV_NF_NAT ,S_10_MFOV_SF_NAT ,S_10_WFOV_NF_NAT ,S_10_WFOV_SF_NAT
					Erbe Scanner	PRODUCTS: S4G_SC_2.5, S4G_SC_NEST10, S4G_SC_NEST5, S4G_SC_ZG,
					GC	Product-specific for: LARC_GTE
					03-NO-CHEMILUMINESCEN	Product-specific for: LARC_GTE
					C2H4CHEMILUMINESCEN	Product-specific for: LARC_GTE
					EC-GC	Product-specific for: LARC_GTE
					LASER(DLA)	Product-specific for: LARC_GTE
					LASER(TP/LIF)	Product-specific for: LARC_GTE

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					PLATINUM RESISTANCE	Product-specific for: LARC_GTE
					CAPACITIVE SENSOR	Product-specific for: LARC_GTE
					RADAR ALTIMETER	Product-specific for: LARC_GTE
					ONS	Product-specific for: LARC_GTE
					INS	Product-specific for: LARC_GTE
					GOES RETRANSMIT NBS	Product-specific for: LARC_GTE
					SELENIUM PHOTOELCEL	Product-specific for: LARC_GTE
					HYGROMETER	Product-specific for: LARC_GTE
					RADIOMETER	Product-specific for: LARC_GTE
					TOMS	Product-specific for: GSFC_TOMS_ATMOS_COMP
					CZCS	This is the domain for the Sensor Name Alias for CZCS, Product-specific for: GSFC_CZCS_L0/L1
					ULA	Alaska, Product-specific for: GSFC_CZCS_L0/L1
					ETC	Greenbelt Md, Product-specific for: GSFC_CZCS_L0/L1
					AGO	Santiago Chile, Product-specific for: GSFC_CZCS_L0/L1
					ORR	Auroral Valley Australia, Product-specific for: GSFC_CZCS_L0/L1
					QUI	Quito Ecuador Product-specific for: GSFC_CZCS_L0/L1
					GDS	Goldstone Ca, Product-specific for: GSFC_CZCS_L0/L1
					MAD	Madrid Spain, Product-specific for: GSFC_CZCS_L0/L1
					HAW	Hawaii, Product-specific for: GSFC_CZCS_L0/L1
					GWM	Guam, Product-specific for: GSFC_CZCS_L0/L1
					ACN	Acension Island, Product-specific for: GSFC_CZCS_L0/L1

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					MIL	Merritt Island Fl, Product-specific for: GSFC_CZCS_L0/L1
					BLT	Greenbelt Md, Product-specific for: GSFC_CZCS_L0/L1
					CAN	Canberra Australia, Product-specific for: GSFC_CZCS_L0/L1
					BDA	Bermuda, Product-specific for: GSFC_CZCS_L0/L1
					RID	Madrid Spain, Product-specific for: GSFC_CZCS_L0/L1
					SIO	Scripps Institute of Oceanography, Product-specific for: GSFC_CZCS_L0/L1
					WPS	Wallops Island Va, Product-specific for: GSFC_CZCS_L0/L1
DataSetName	Contains the name of the Data Set guide document.	DataSetGuide		char(64)		
DataType	data type (ancillary, housekeeping, etc.)	Input	TRMM			
DateType	This attribute specifies the type of date represented by the value in the date a ttributes of the temporal subclasses.	Temporal	CERES needs Julian Date rather than roman calenda r	char(10)	JULIAN	See CERES ATBD for description of true Julian date system to be used in identify ing their data, to be consistent with predecessor ERBE data.
					GREGORIAN	Standard calendar dates using B.C., A.D. years, and January 1 through December 3 1 month and day delineation.
DateofGeneration ofInputFiles	List of generation dates of the input files	Input	TRMM			
DateofReference PaperPublication	Contains the date of formal/informal publication of the reference paper.	ReferencePaper	scenarios 9a,13	date		
DeliveryPurpose	This attribute describes the purpose of the delivery e.g., an initial release, m odification, etc.	ChangeLog				
DenominatorofFl atteningRatio	The denominator of the ratio of the difference between the equatorial and polar radii of the ellipsoid when the numerator is set to 1.	GeodeticMod el	FGDC 6/8/94	real	Denominator of Flattening > 0.0	
DepthDatumNam e	The identification given to surface of reference from which depths are measured.	DepthSystem Definition	FGDC 6/8/94	char(80)	Local Surface	
					Chart datum; datum for sounding reduction	
					Lowest astronomical tide	

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					Highest astronomical tide	
					Mean low water	
					Mean high water	
					Mean sea level	
					Land survey datum	
					Mean low water springs	
					Mean high water springs	
					Mean low water neap	
					Mean high water neap	
					Mean lower low water	
					Mean lower low water springs	
					Mean higher high water	
					Mean higher low water	
					Mean lower high water	
					Spring tide	
					Tropic lower low water	
					Neap tide	
					High water	
					Higher high water	
					Low water	
					Low-water datum	
					Lowest low water	
					Lower low water	
					Lowest normal low water	
					Mean tide level	
					Indian spring low water	
					High-water full and charge	
					Low-water full and charge	
					Columbia River datum	

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					Gulf Coast low water datum	
					Equatorial springs low water	
					Approximate lowest astronomical tide	
					No correction	
DepthDistanceUnits	Units in which depths are recorded.	DepthSystem Definition		char(20)	meters	
					feet	
					fathoms	
DepthEncodingMethod	The means used to encode depths.	DepthSystem Definition	FGDC 6/8/94	text(255)	Explicit depth coordinate included with horizontal coordinates	
					Implicit coordinate	
					Attribute Values	
DepthResolution	The minimum distance possible between two adjacent depth values, expressed in de pth distance units of measure	DepthSystem Definition	FGDC 6/8/94	real	Depth Resolution > 0.0	
Description	This attribute identifies the major emphasis of the content of the collection or granule. Some suggestions are: 'all products generated from instrument X', or 'all products containing the parameter sea surface temperature as skin temp'.	ECSCollection	scenarios	text(255)		
Description	The description of the production plan.	ProductionPlan		char(255)		
DescriptionType	Contains the type of algorithm description.	AlgorithmDescription		char(64)	System Description	
					Processing File Description	
					ATBD	
					Test Plan	
					Operations Manual	
					SW Development Standard	
					Programmers Guide	
					Detailed Design	
					Performance Test Results	
DescriptionTypeID	Contains the type identifier for the description type.	AlgorithmDescription		char(64)		
DetailedDesignName	Contains the name of the Detailed Design algorithm description.	DetailedDesign		char(64)		
DirectSpatialReferenceMethod	The system of objects used to represent space in the locality. GSFC_AVHRR: The spatial resolution of the product in km or deg.	DirectSpatialReferenceMethod	FGDC 6/8/94	char(6)	point	

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					vector	
					rastor	
					0.5 DEGREE and 12.5KM	Product specific for: MSFC_SSMI_ATMOS_DYN
					1.0 DEGREE and 14-70KM	Product specific for: MSFC_SSMI_ATMOS_DYN
					5.0 DEGREE and 25KM	Product specific for: MSFC_SSMI_ATMOS_COMP, MSFC_SSMI_ATMOS_DYN, MSFC_SSMI_LAND_ AUX
					2.5 degree vector	Product specific for: ceres_erp, erbe_erp
					5.0 degree vector	Product specific for: ceres_erp, erbe_erp
					10.0 degree vector	Product specific for: ceres_erp, erbe_erp
					5.0 degree nested to 10.0 Degrees	Product specific for: erbe_erp
					2.5 degree nested to 5.0 Degrees	Product specific for: erbe_erp
DistanceResolution	The minimum distance measurable between two points, expressed Planar Distance Un its of measure.	DistanceandBearingRepresentation		real	Distance Resolution > 0.0	
DocumentAccess Instructions	Instructions describing how to obtain electronic access to a stand-alone documen t. May simply be an anonymous ftp site address, or a World Wide Web homepage UR L. Data Provider Sites may establish additional instruction requirements.	StandAloneDocument	scenario 13	char(255)		
DocumentCreated	The date on which the document was created.	Document		datetime		
DocumentFormat	Contains the software format of the document, including as a minimum the name an d recommended suffix (e.g. postscript, .ps; maker interchange format, .mif), but also including the generating software name, version and originating platform i f necessary (e.g., Microsoft Word 4.0 Macintosh; MS Word for Windows 2.0 IBM PC) .	StandAloneDocument	engineering judgement	char(80)		
DocumentInserted	The date on which the document was inserted into the information system.	Document		datetime		
DocumentUpdated	The date on which the document was last revised or updated.	Document		datetime		
DocumentVersion	The version or revision level of the document.	Document	Engineering judgement	char(8)		
DynamicStaticFlag	A flag indicating if the noninstrument data is produced by static or dynamic ana lysis.	NonInstrument	Engineering judgement	flag	Static	
					Dynamic	
ESDT	The Earth Science Data Type (logical type) of the document.	Document	Engineering judgement	char(32)	Dataset	

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					Guide_Document	
					Reference_Paper	
					Data_Product	
					Granule_Group	
					Summary_Statistics	
					QA_Data_Statistics	
					Browse_Product	
					Delivered_Algorithm_Package	
					Production_History	
					Lightning Observations	
					NOAA radar network	
					LIS04 - level 3 product	
					LIS03 - Level2A product	
					LIS02 - Level1B product	
					LIS01 - Level 1A product	
					Level 0	
EastBoundingCoordinate	Eastern-most coordinate of the limit of coverage expressed in longitude.	BoundingRectangle	FGDC 6/8/94	real	-180.0 <= East Bounding Coordinate <= 180.0	
ElectronicMailAddress	The address of the electronic mailbox of the organization or individual. The ad dress, following NASA Global Change Master Directory format, should be of the fo rm 'network name>network address'. Examples of network names are NSN, SPAN, tel email, ARPANET, and Internet. Examples of network addresses are NSSDCA::NG, MIK EMARTIN/NASA, MMARTIN@JPL.MILVAX, or mikem@eos.hitc.com	Email	FGDC 6/8/94, GCMD, system design	text	free text	
EllipsoidName	Identification given to established representation of the Earth's shape.	GeodeticModel	FGDC 6/8/94	text	Clarke 1866 free text	
					Geodetic Reference System 80 free text	
EndDate	The ending date for which the production plan is applicable.	ProductionPlan		datetime		

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
EndsatPresentFlag	This attribute will denote that a data collection which covers, temporally, a di scontinuous range, currently ends at the present date. This way, the granules w hich comprise the data collection that are continuously being added to inventory need not update the data collection metadata for each one. Note that MODIS gra nules may be added several thousand times a day, making the update of the data c	DiscontinuousMultipleRange	DMWG Large Group Session: Accomodate ability to track date range if still changing daily	flag		
ExclusionGRingFlag	Flag which determines if the coordinates represent the Outer or Exclusion G-Ring .	GRing	FGDC 6/8/94	char(1)	Y	Value denotes latitude or longitude of the starting point of arc of an inner (ex clusion) G-Ring.
					N	Value denotes the latitude or longitude of the starting point of an arc of an ou ter G-Ring.
FilePath	The full computer file system access path indication the physical location of th e file. e.g. '/earth/LIS/1998/december/US/southeast/'	Document	Engineering judgement	char(255)		
Format	i.e. ASCII, Postscript, etc.	PGEConfigFile				
FormatName	Contains the name of the Project Subsetting Format guide document.	ProjectSubsettingGuide		char(64)		
FutureReviewDate	Date of next planned QA peer review.	Review	PLDS, GCMD	date YYYY/MM/DD		
GRingPointLatitude	The latitude of a point of the G-ring.	GRingPoint	FGDC 6/8/94	real	-90.0 <= G-Ring Latitude <=90.0	
GRingPointLongitude		GRingPoint	FGDC 6/8/94	real	-180.0 <= G-Ring Longitude <= 180.0	The longitude of a point of a G-Ring.
GRingPointSequenceNo		GRingPoint	FGDC 6/8/94	char(20)	G-Ring Latitude	The latitude of a point of the G-Ring range: -90.0 <= G-Ring Latutide < 90.0
					G-Ring Longitude	The longitude of a point of the G-Ring range: -180.0 <= G-Ring Longitude < 180.0
GegraphicalRegionName	Contains a name for the geographical region the Regional Area Definition Guide a pplies to.	RegionalAreaDefinitionGuide		char(64)	Nile Delta	
					Sahel Zone	
					Mississippi Valley	
					Sahara Desert	
					Sudanian Zone	
					Amazon Basin	
					others	
GenerationDate		ECSCollection				

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
GeographicCoordinateUnits	Units of measure used for the latitude and longitude resolution values. For lat, a 2 digit decimal number from 0-90; for lon, a 3 digit decimal number from 0-18 0. + or absence of - for values north of equator or values west of prime meridian; - for all others.	GeographicCoordinateSystem	FGDC 6/8/94	char(80)	Decimal Degrees	
					Decimal Minutes	
					Degrees and Decimal Minutes	
					Radians	
					Grads	
					Decimal Seconds	
					Degrees, Minutes and Decimal Seconds	
					Degrees	Product specific for SAGE_ATMOS_DYN, SAGE_ATMOS_COMP, LARC_ISCCP, LARC_FIRE, ERB E_ERP, LARC_GTE, GSFC_TOMS_ATMOS_COMP.
					km	Kilometers. Product specific for GSFC_TOMS_ATMOS_COMP.
GeographicalNormalWeather	Contains typical climate description for the region.	RegionalAreaDefinitionGuide		char(255)	Tundra	
					Savanah	
					Desert	
					Maritime	
					other	
GeographicalRegionLanduseCover	Contains keywords and free text describing the land usage characteristic(s) of the region.	RegionalAreaDefinitionGuide		char(255)	crops	
					livestock	
					forestation	
					commercial	
					residential	
					other	
GeographicalRegionLocation	The mega-scale location of the geographical region. e.g. Africa	RegionalAreaDefinitionGuide		char(64)	Africa	
					Europe	
					United States	
					Asia	
					South America	
					North America	
					China	
					South Pacific	
					India	

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					North Atlantic	
					North Pacific	
					Canada	
					others	
GeographicalRegionTopography	Contains topographical characerization of the region.	RegionalAreaDefinitionGuide		char(255)	flat	
					mountain	
					hills	
					valley	
					marsh	
					other	
GeographicalRegionVegatationCover	Contains keywords and free text describing the vegatation characterization of th e region.	RegionalAreaDefinitionGuide		char(255)	Boreal forest	
					Barren	
					Wetlands	
					Deciduous forest	
					Grasslands	
					other	
GranuleVersionIdentifier	Version of the granule generated by the data producer.	ECSDataGranule		int(22)		
GridCoordinateSystemName	Name of the Grid Coordinate System.	GridCoordinateSystem	FGDC 6/8/94	text	Universal Transverse Mercator	Requires UTM zone number, 1-60 for Northern Hemisphere, -60 to -1 for Southern H emisphere.
					Universal Polar Stereographic	Requires UPS zone identifier, 'A','B','Y','Z'
					State Plane Coordinate System 1927	Requires SPCS zone identifier; four digit numeric codes based on the North Ameri can Datum of 1927 are found in FIPS 70-1 (Federal Information Processing Standar d).
					State Plane Coordinate System 1983	Requires SPCS zone identifier; four-digit codes based on North American Datum of 1983 are found in NOAA Manual NOS NGS 5.
					ARC Coordinate System	Requires ARC system zone identifier 1-18.
					Other Grid System	Requires description in lieu of zone identifier which includes name, parameters and values, and citation of the specification for the algorithms that describe t he mathematical relationship between the Earth and the coordinates of the grid s ystem.

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
GuideName	The name of the guide document.	Guide		char(64)	Regional Area Definition Guide	
					Data Center Guide	
					Project Campaign Guide	
					Source Platform Guide	
					Data Set Guide	
					Project Subsetting Guide	
					Sensor Instrument Guide	
HistorySummary	This attribute specifies the release history summaries for each delivered item,e .g. Table showing each item, release, delivery date, purpose.	ChangeLog				
HorizontalDatum Name	The identification given to the reference system used for defining the coordinat es of points.	GeodeticMod el	FGDC 6/8/94	char(30)	North American Datum of 1927 free text	
					North American Datum of 1983 free text	
HoursofService	Time period when individuals can speak to the organization or individuals.	Contact	FGDC 6/8/94	free text	free text	
Identifier	This attribute provides the unique identifier for each PGE, not greater than xxx characters in length.	PGEDescripti on				
IndirectSpatialRef erence	Name of types of geographic features, addressing schemes, or other means through which locations are referenced in the locality.	SpatialDataO rganization	FGDC 6/8/94	char(25 5)	2.5	Product specific for: products ERBE_S4G_SC_2.5; ERBE_S4G_SC_NEST5; ERBE_S4G_SC_Z G; ERBE_S4_NAT; ERBE_S9_NAT

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					5	Product specific for: products ERBE_S10_MFOV_NF_NAT; ERBE_S10_MFOV_SF_NAT; ERBE_ S10_WFOV_NF_NAT; ERBE_S10_WFOV_SF_NAT; ERBE_S4G_MFOV_NF; ERBE_S4G_MFOV_NF_N10; E RBE_MFOV_NF_ZG; ERBE_S4G_SC_2.5; ERBE_S4G_SC_NEST10; ERBE_S4G_SC_NEST5; ERBE_S4G _SC_ZG; ERBE_S4G_WFOV_NF; ERBE_S4G_WFOV_MF_N10; ERBE_S4G_WFOV_NF_ZG; ERBE_S4G_WF OV_SF; ERBE_S4G_NAT; ERBE_S9_NAT; ERBE_S4G_WFOV_NF; ERBE_S4_NAT
					10	Product specific for: products ERBE_S10_MFOV_NF_NAT; ERBE_S10_MFOV_SF_NAT; ERBE_S10_WFOV_NF_NAT; ERBE_S10_WFOV_SF_NAT; ERBE_S4G_MFOV_NF_N10; ERBE_S4G_MFOV_NF_ZG; ERBE_S4G_MFOV_SF; ERBE_S4G_MFOV_NF_ZG; ERBE_S4G_SC_2.5; ERBE_S4G_SC_NEST10; ERBE_S4G_SC_NEST5; ERBE_S4G_SC_ZG; ERBE_S4G_WFOV_NF; ERBE_S4G_WFOV_NF_N10; ERBE_S4G_WFOV_NF_ZG; ERBE_S4G_WFOV_SF; E
InputFiles	TBD	Input				
InstrumentName	The long or full name by which the instrument is commonly known.	Instrument	Engine ering Judge ment	char(80)	Active Cavity Radiometer Irradiance Monitor	
					Atmospheric Infrared Sounder	
					Microwave Humidity Sounder	
					Advanced Microwave Sounding Unit	
					Advanced Spaceborne Thermal Emission and Reflection Radiometer	

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					Clouds and the Earth's Radiant Energy System	
					Doppler Orbitography and Radiopositioning Integrated by Satellite	
					Altimetry Microwave Radiometer	
					Solid-State Altimeter	
					EOS Ocean Color Instrument	
					Earth Observing Scanning Polarimeter	
					Enhanced Thematic Mapper Plus	
					Geoscience Laser Altimeter System	
					High Resolution Dynamics Limb Sounder	
					Lightening Imaging Sensor	
					Multi-frequency Imaging Microwave Radiometer	
					Multiangle Imaging SpectroRadiometer	
					Microwave Limb Sounder	
					Moderate-Resolution Imaging Spectroradiometer	
					Measurements of Pollution in the Troposphere	
					Ozone Dynamics Ultraviolet Spectrometer	

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					Stratospheric Aerosol and Gas Experiment III	
					SeaWinds	
					Solar Stellar Irradiance Comparision Experiment	
					Tropospheric Emission Spectrometer	
InstrumentPackage	The instrument's sensor capability.	Instrument	CEOS catalogue subgroup; V0 data dictionary valid values	char(20)	polarimeter	
					spectrometer	
					radiometer	
					scatterometer	
					magnetometer	
					thermometer	
					barometer	
					altimeter	
					aerometer	
					other	
					erbe_erp_Erbe Non Scanner	
					erbe_erp_Erbe Scanner	
					ceres_erp_Radiometer	
					ceres_l0/l1_Radiometer	
					GSFC_AVHRR_LAND_SFC_VEG Radiometer	
InstrumentType	Specifies the type of collection instrument.	Instrument	scenario, 3/91 model	char(20)	imager	
					limb sounder	
					microwave sounder	
					altimeter	
					drifting bouy	
					moored bouy	
					rain guage	
					radar	
					spectrometer	
					radiometer	

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					polarimeter	
					laser altimeter	
					radar altimeter	
					CCD array detector	
JournalArticleAccessInstructions	Instructions describing how to obtain electronic access to a stand-alone documen t. May simply be an anonymous ftp site address, or a World Wide Web homepage UR L. Data Provider Sites may establish additional instruction requirements.	JournalArticle		char(255)		
JournalArticleName	The name of the journal article.	JournalArticle		char(80)		
LatitudeResolution	The minimum difference between two adjacent latitude values expressed in Geograp hic Coordinate Units of measure	GeographicCoordinateSystem	FGDC 6/8/94	real	Latitude Resolution > 0.0	
					-80.0 to 80.0	Product specific for SAGE_ATMOS_DYN, SAGE_ATMOS_COMP.
					-90.0 to 90.0	Product specific for LARC_ISCCP.
					22.84 to 45.99	Fire-CI2-Maps. Product specific for LARC_FIRE.
					35.65 to 38.00	Fire-CI2-Class-Sonde. Product specific for LARC_FIRE.
					37.01 to 37.01	Fire-CI2-Doplr-Lidar; Fire-CI2-LARC8-Lidar Product specific for LARC_FIRE.
					37.10 to 37.10	Fire-CI2-Raman-Lidar. Product specific for LARC_FIRE.
					0.0 to 84.0	Product specific for LARC_GTE.
LocalCoordinateSystemDescription	A description of the coordinate system and its orientation to the surface of the Earth.	LocalCoordinateSystem	FGDC 6/8/94	text(255)	free text	
LocalGeoreferenceInformation	A description of the information provided to register the local system to the Ea rth (e.g. control points, satellite ephemeral data, inertial navigation data).	LocalCoordinateSystem	FGDC 6/8/94	text(255)	free text	
LocalPlanarCoordinateSystemDescription	A description of the local planar coordinate system.	LocalPlanarCoordinateSystem	FGDC 6/8/94	text(255)	free text	
LocalPlanarGeoreferenceInformation	A description of the information provided to register the local planar system to the Earth (e.g., control points, satellite ephemeral data, inertial navigation data)	LocalPlanarCoordinateSystem	FGDC 6/8/94	text(255)	free text	
LocalityDescription	This attribute provides the rationale behind including this locality definition in ECS. It should include the area of Earth Science research that requires such a definition, a description of what the locality represents in general terms, a nd a brief description or reference to a description of the method used as the s ource of the definition.	Locality	Scenario 9b;Data Engineering	text(255)		

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
LocalityName	Provides name which spatial/temporal entity is known ('MIDWEST FLOOD 93' or 'SPR ING' or 'Monsoon Season').Some entities may have multiple definitions over time and space (e.g. SPRING will cover varying begin/end dates and varying global cov erage depending on the year and global location being specified). GSFC AVHRR: Fl ag is used to ID the kind of geographic coverage a granule represents.	Locality	Scenari o 9b;Data Engine ering;S PSO Survey '93	char(80)	Canada/R	Regional Canadian sites
					Cryos	Cryosphere
					Global	Global surface; The Sage Atmos Dyn Product will use global flags to indicate the presence of global data. For product specific GSFC_TOMS_ATMOS_COM P and GSFC_CZC S_L0_L1.
					Land	Global land surface
					Land/Cryo	Land Ice and Snow regions
					Land/L	Local land sites
					Land/R	Regional land sites
					Limb	Limb sounding
					Local	Local sites
					Ocean	Global ocean surface. For product specific GSFC_CZCS_L0_L1.
					Ocean/Cryo	Regions with sea ice
					Ocean/I	Ocean with Case I sediments
					Ocean/II	Ocean with Case II sediments
					Ocean/L	Local oceanic sites
					Ocean/R	Regional oceanic sites
					Ocean/S	Southern Ocean
					Ocean/SA	Southern & Eastern North Atlantic
					Polar	Latitudes > 60 degrees N & S
					Regional	For regional areas. For products: ERBE_S10_MFOV_NF_NAT, _SF_NAT, _WFOV_NF_NAT, W FOV_SF_NAT, ERBE_S4G_MFOV_NF, _N10, _ZG, _SF, _SC_2.5, _NEST10, _SC_NEST5, _SC_Z G, _WFOV_NF, _WFOV_MF_N10, _WFOV_NF_ZG, _WFOV_SF, _WFOV_SF_ZG, _NAT;ERBE_S9_NAT. For products cer03 all three vectors. For products cer05, cer07, cer08, cer12, cer1.25 equal area regions. For product specific CERES_ERP and ERBE_ERP.
					Tropic	Zonal Band 35 degrees N to 35 degrees S

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					Wetlands	Global wetlands
					Winter	Product specific for SAGE_ATMOS_DYN.
					Spring	Product specific for SAGE_ATMOS_DYN.
					Summer	Product specific for SAGE_ATMOS_DYN.
					Autumn	Product specific for SAGE_ATMOS_DYN.
					Y	Y (Y=YES) is used in the SAGE_ATMOS_DYN product to indicate global data. Product specific for LARC_ISCCP, SAGE_ATMOS_COMP, CERES_ERP, ERBE_ERP. For CERES_ERP co verage global and cer03, cer07, and cer16.
					Sunrise	Sage2_Aero_Prf and Sage2_Aero_Prf_Nat. Product specific for SAGE_ATMOS_COMP.
					Sunset	Sage2_Aero_Prf and Sage2_Prf_Nat. Product specific for SAGE_ATMOS_COMP.
					N	N=NO For coverage global and cer03,cer07,cer16. Product specific for CERES_ERP, LARC_FIRE, and LARC_GTE, and GSFC_AVHRR_LAND_SFC_VEG.
					Swath	For cer02,cer11,cer04,cer09,cer01. For product specific CERES_ERP.
					Zonal	For products: ERBE_S4G_MFOV_NF,_N10,_ZG,_SF,WFOV_SF_ZG,_MFOV_SF_ZG, _SC_2.5,_NEST10,_S4G_NEST10,_SC_ZG,_WFOV_NF,_NF_ZG,_WFOV_SF,_ZG, ERBE_S4G_NAT. For product specific cer03 and cer08. For cer03 all three vectors.
					None	For product specifc GSFC_TOMS_ATMOS_COMP.
					Constrained	For product specific GSFC_TOMS_ATMOS_COMP, and GSFC_CZCS_L0_L1.
					Orbital	For product specific GSFC_TOMS_ATMOS_COMP, and GSFC_CZCS_L0_L1.
					Name	For product specific GSFC_CZCS_L0_L1.
					Costal	For product specific GSFC_CZCS_LO_L1.
					North America	For product specific GSFC_CZCS_L0_L1

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					G	G=global For product specific GSFC_AVHRR_LAND_SFC_VEG.
					C	C=Constrained For product specific GSFC_AVHRR_LAND_SFC_VEG.
					O	O=Orbital For product specific GSFC_AVHRR_LAND_SFC_VEG.
LocalityType	Distinguishes type of entity for which space/time extent is being defined.Most o ften spatial and temporal domain will be used to define coverage of data collect ion or granule; or to define the varying spatial extent over time, of some geoph ysical event/ phenomena such as the Midwest Flood of 93, or of certain seasons i n different parts of the world, such as monsoon season, or spring. It may be use	Locality	Engine ering judgem ent	char(20)	Coverage	Coverage will be indicated on SAGE_ATMOS_DYN, SAGE_ATMOS_COMP, Product, LARC_ISC CP, LARC_FIRE, LARC_GTE, CERES_ERP, ERBE_ERP, and CERES_L0_L1 cer01 and cer09 pr oducts, GSFC_TOMS_ATMOS_COM P, GSFC_CZCS_L0_L1, GSFC_AVHRR_LAND_SFC_VEG.
					Season	Season will be indicated on the Sage Atmos Dyn Product. For product specific SAG E_ATMOS_DYN.
					Event	For product specific SAGE_ATMOS_COMP. Products Sage2_Aero_Prf and Sage2_Aero_Prf _Nat Products.
					Region	For product specific CERES_ERP, and ERBE_ERP, GSFC_CZCS_L0_L1.
					Four Corners	For product specific MSFC_V0.
					Zone	For product specific CERES_ERP, ERBE_ERP.
					Scene Extent	For product specific GSFC_CZCS_L0_L1.
					Scene	For product specific GSFC_CZCS_L0_L1.
LongName	This attribute will identify the long name associated with the collection or gra nule. This includes dataset name, product name, or granule name (the last not o ften given). This is the reference name used in describing the scientific conte nts of the data collection; it is not the 'id' of the data.	ECSCollectio n	scen 3,23b,7 ,22b; existing system s; SPSO	char(80)		
LongitudeResolut ion	The minimum difference between two adjacent longitude values expressed in Geogra phic Coordinate Units of measure.	GeographicC oordinateSys tem	FGDC 6/8/94	real	Longitude Resolution > 0.0	
					-180.0 to 180.0	For product specific SAGE_ATMOS_DYN, SAGE_ATMOS_COMP, LARC_ISCCP.
					-120.49 to -60.83	Fire-Cl2-Maps. For product specific LARC_FIRE.

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					-97.16 to -95.01	Fire-CI2-Class-Sonde. For product specific LARC_FIRE.
					-95.38 to -95.38	Fire-CI2-Doplr-Lidar; Fire-CI2-LARC8-Lidar. For product specific LARC_FIRE.
					-95.35 to -95.35	Fire-CI2-Raman-Lidar. For product specific LARC_FIRE.
					-167.0 to 0.0	For product specific LARC_GTE.
Maintenanceand UpdateFrequency	The frequency with which changes and additions are made to the collection after the initial dataset begins to be collected/processed.	SingleTypeC ollection	DMWG 8/31/94	char(80)	Continually	The collection is updated more frequently than once a day.
					Daily	The collection is updated once per day, every day.
					Weekly	The collection is updated once per week.
					Monthly	The collection is updated once per calendar month.
					Annually	The collection is updated once per year; the first date of update is usually one year after the first date of receipt of data from this collection's source.
					Unknown	
					As Needed	The collection is updated as determined by the Principal Investigator or accordi ng to on-demand requests from end users.
					Irregular	The collection is updated on an unscheduled but periodic basis.
					None Planned	The collection is complete and therefore will not be updated further.
MapProjectionNa me	The name of the systematic representation of all or part of the surface of the E arth on a plane or developable surface	MapProjectio n	FGDC 6/8/94, An Album of Map Projecti ons, Map Projecti ons - A Workin g Manual	char(80)	Albers Conical Equal Area	Requires standard parallel, longitude and scale factor of central meridian, lati tude/longitude and scale factor of projection origin, false easting and northing , scale factor at equator & center line, height of perspective point above the s urface, latitude/longitude of projection center, oblique line azimuth (angle+lat of origin), oblique line point(lat/lon), straight vertical longitude from pole.
					Azimuthal Equidistant	Requires same parameters as those for Albers Conical Equal Area.
					Equidistant Conic	Requires the same parameters as those for Albers Conical Equal Area.
					Equirectangu lar	Requires same parameters as those for Albers Conical Equal Area.

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					General Vertical Nearsided Projection	Requires same parameters as those for Albers Conical Equal Area.
					Gnomomic	Requires same parameters as those for Albers Conical Equal Area.
					Lambert Azimuthal Equal Area	Requires same parameters as those for Albers Conical Equal Area.
					Lambert Conformal Conic	Requires same parameters as those for Albers Conical Equal Area.
					Mercator	Requires same parameters as those for Albers Conical Equal Area.
					Modified Stereographic for Alaska	Requires same parameters as those for Albers Conical Equal Area.
					Miller Cylindrical	Requires same parameters as those for Albers Conical Equal Area.
					Oblique Mercator	Requires same parameters as those for Albers Conical Equal Area.
					Orthographic	Requires same parameters as those for Albers Conical Equal Area.
					Polar Stereographic	Requires same parameters as those for Albers Conical Equal Area.
					Polyconic	Requires same parameters as those for Albers Conical Equal Area.
					Robinson	Requires same parameters as those for Albers Conical Equal Area.
					Sinusoidal	Requires same parameters as those for Albers Conical Equal Area.
					Space Oblique Mercator	Requires same parameters as those for Albers Conical Equal Area, plus the Landsa t Satellite Number and the Path Number reflecting the orbit of the Landsat satel lite.
					Stereographic	Requires same parameters as those for Albers Conical Equal Area.
					Transverse Mercator	Requires same parameters as those for Albers Conical Equal Area.
					van der Grinter	Requires same parameters as those for Albers Conical Equal Area.

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					Other Projection	A projection not included in the other domain values listed. Requires its own se t of parameters and values, and a citation of the specification for the algorith ms that describe the mathematical relationship between the Earth and the plane o r developable surface for the projection.
					Hammer-Aitoff	Definition TBS by LaRC/CERES personnel.
					Interrupted Goode Homolosine	A pseudocylindrical composite derived from the Sinusoidal and Mollweide projecti ons.
					Hotine Oblique Mercator	Developed for large-scale mapping of the ellipsoid. Also known as Oblique Mercat or Projection when using Hotine's formulas.
					Mollweide	Normally used as a world maps especially thematic maps, and occasionally for a v ery large region such as the Pacific Ocean. Combined with Sinusoidal projection to deveop other projections such as the Goode Homolosine etc.
					Interrupted Mollweide	Similar to the Goode Homolosine and Sinusoidal projections. Interruption of Moll weide projection was made to minimize distortion of continents or oceans.
					Hammer	Also known as Hammer-Aitoff and is similar to a modification of Lambert Azimutha l Equal-Area projecton.
					Wagner IV	Identical to Putnins P2 (prime) Projection. Also similar to Robinson projection.
					Wagner VII	Used in World Maps, such as climatic maps prepared by the U.S. Department of Com merce. Also known as Hammer-Wagner and similar to Hammer (Elliptical) projection .
					Oblated Equal Area	Equal area map projections is used for small-scale maps showing larger regions. It exhibits several Azimuthal properties.
					Equal Area Grid System	For product specific LARC_ISCCP.
					Equal Angle Grid	For product specific ERBE_ERP.

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
MapProjectionPa rameters	Values for specific map proj, each has unique math relationship between the eart h and plane or developable surface.Params req'd are provided in each domain valu e's defs. Constraints include: -90.0<= (Standard Parallel | any Lat) <=90.0; -18 0.0<=any Lon<180.0; (any Scale Factor | Height of Perspective Point Above Surfac e)>0.0; 0.0 <= Az Angle<360.0; Landsat # 0- 5; Path # 0-251 (L1,2,3); Path # 0-25	MapProjectio n	FGDC 6/8/94	text(50 0)	see individual Map Projections in the FGDC for domain values.	
ModelDescription	A description of the model used to produce the noninstrument data. e.g.	NonInstrume nt	Engine ering judgem ent	char(25 5)		
ModelName	The name of the model used to produce model results for noninstrument data. e.g. ModelName='Global 1'	NonInstrume nt	Engine ering judgem ent	char(20)		
MultipleDateNam e	The name of the collection of discrete date/time events. e.g. 'LIS 10/93 series'	MultipleDate TimePeriod	Engine ering judgem ent	char(30)		
Name	Contains the name of the Computer Science Data Type.	CSDT		char(40)	Access Table	
					ASCII Text	
					Science Data Table (Standard)	
					Binary Text	
					Image	
					Code (ASCII)	
					Code (Binary)	
					Science Data Table (Indexed)	
					Grid	
					n-Dim Array	
NonCoreAttribute Description	This attribute provides a description for the non-core attribute name.	InformationC ontentAttribut e		char(25 5)		
NonCoreAttribute MeasurementRes olution	This attribute will be used to the smallest unit increment to which a non-core a ttribute value is measured.	InformationC ontentAttribut e	FGDC Entity/A ttribute Informa tion	char(30)		
NonCoreAttribute Name	This attribute identifies the label which is used to reference characteristics o f the object,(collection or granule) which are collection-, granule-, or site-sp ecific, thus are not in the core standard. The implementation of this logical m odel will use the information populating this class to build collection-specific schemas at each LIM, and the LIM services will use it to decompose and recompos	InformationC ontentAttribut e	DMWG , MMoor e	char(30)	Cloud Cover	Product specific for: ceres_erp found in products cer11; cer05; cer07; cer08; ce r12
					Cloud Assessment	
					Bands Acquired	
					Bands Used	

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					Elevation	
					Instr to Target Distance	
					Clouds	Product specific for: sage_atmos_dyn, LARC_ISCCP for ISCCP, SRB Daily, and SRB Monthly Products, LARC_FIRE --- CI2_LARC8; CI1_WPL_Radar
					Day/Night Flag	Product specific for: sage_atmos_dyn, sage_atmos_comp, LARC_ISCCP --- ISCCP, SRB Daily, and SRB Monthly products, LARC_FIRE, ceres_erp, LARC_GTE, erbe_erp
					Humidity	Product specific for: LARC_ISCCP ---ISCCP, and SRB Monthly products, LARC_FIRE -- CI2_Class_sonde, CI2_NWS_OUT, CI2_NWS_IN
					Ice	Product specific for: LARC_ISCCP --- ISCCP, and SRB Monthly products
					Ozone	Product specific for: LARC_ISCCP --- ISCCP, and SRB Monthly products, sage_atmos _comp -- Sage2_O3_Monthly Product , GSFC_TOMS_ATMOS_COMP
					Pressure	Product specific for: LARC_ISCCP --- ISCCP, and SRB Monthly products, LARC_FIRE --- for CI2-Maps, CI2_Class_Sonde, CI2_NWS_OUT, CI2_NWS_IN
					Radiance	Product specific for: LARC_ISCCP products, ceres_erp --- cer02 products, erbe_er p --- S7_NAT, S8_NAT products, ceres_L0_L1
					Reflectance	Product specific for: LARC_ISCCP, and SRB Monthly products, GSFC_TOMS_ATMOS_COMP
					Snow	Product specific for: LARC_ISCCP, and SRB Monthly products

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					Temperature	Product specific for: LARC_ISCCP -- ISCCP and SRB Monthly products, LARC_FIRE -- - CI2-Maps, CI2_CLass_Sonde, CI2_NWS_OUT, CI2_NWS_IN, ceres_erp --- cer16 produc ts
					Irradiance	Product specific for: LARC_ISCCP --- SRB Daily, and SRB Monthly products
					Albedo	Product specific for: LARC_ISCCP --- SRB Monthly products, ceres_erp --- cer16 p roducts
					Aerosol	Product specific for: sage_atmos_comp --- Sage2_Aero_Prf; Sage2_Aero_Prf_nat Pro ducts
					Wind Height	Product specific for: LARC_FIRE --- CI2_Doplr
					Mixing Ratio	Product specific for: LARC_FIRE --- CI2_Raman
					Montgomery Stream Function	Product specific for: LARC_FIRE --- CI2-Maps
					Height	Product specific for:LARC_FIRE --- CI2_Doplr
					Geopotential Height	Product specific for: LARC_FIRE --- CI2_Class_Sonde, CI2_NWS_OUT, CI2_NWS_IN
					Wind Speed	Product specific for: LARC_FIRE --- CI2-Maps, CI2_Class_Sonde, CI2_Doplr, CI2_NW S_OUT, CI2_NWS_IN
					Wind Direction	Product specific for: LARC_FIRE --- CI2_Doplr, CI2_NWS_OUT, CI2_NWS_IN
					Radiative Flux	Product specific for: ceres_erp --- for Products cer03; cer05; cer07; cer08; cer 12; cer04
					Solar Incidence	Product specific for: ceres_erp -- Products cer03
					Acetylene	Product specific for: LARC_GTE
					Ethane	Product specific for: LARC_GTE
					Propane	Product specific for: LARC_GTE
					Butane	Product specific for: LARC_GTE
					Pentane	Product specific for: LARC_GTE
					PAN	Product specific for: LARC_GTE

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					PPN	Product specific for: LARC_GTE
					C2CL4	Product specific for: LARC_GTE
					CH3ONO2	Product specific for: LARC_GTE
					CO	Product specific for: LARC_GTE
					CH4	Product specific for: LARC_GTE
					NO	Product specific for: LARC_GTE
					NOy	Product specific for: LARC_GTE
					UV Zenith	Product specific for: LARC_GTE
					UV Nadir	Product specific for: LARC_GTE
					Nav-met	Product specific for: LARC_GTE
					Day/Night	Product specific for: ceres_erp, MSFC_PR_ATMOS_DYN, MSFC_TMI_ATMOS_DYN, MSFC_RAD AR_TAPES_ATMOS_DYN, MSFC_PR_L0_L1, MSFC_TMI_L0_L1, GSFC_TOMS_ATMOS_COMP, MSFC_RA DAR_TAPES_L0_L1, GSFC_TRMM, GSFC_VIRS_L0_L1, ceres_L0_L1, GSFC_AVHRR_LAND_SFC_VE G
					Flux	Product Specific for: erbe_erp --- S7_NAT, S8_NAT, S2_NAT products
					Albedo, Incidence	Product specific for: erbe_erp --- all other products
					Cloud_Base	Product specific for: MSFC_PR_ATMOS_DYN, MSFC_TMI_ATMOS_DYN, MSFC_RADAR_TAPES_AT MOS_DYN, GSFC_TRMM
					Calibrated Radiance	Product specific for: GSFC_CZCS_L0_L1
					CCA Score	Product specific for: EDC_LANDSAT_LAND_SFC_VEG
NonCoreAttribute UnitsofMeasurement	The standard units of measurement for a non-core attribute. AVHRR: Units of Geophysical Parameter=Units of Geophysical Parameter	InformationContentAttribute	FGDC Entity/Attribute Information	char(20)	Counts	Product specific for: GSFC_CZCS_L0_L1
					'%'	Product specific for: EDC_LANDSAT_LAND_SFC_VEG

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
NonCoreAttribute Value	The valid values that can be assigned for an attribute.	InformationC ontentAttribut e	DMWG , MMoor e	char(25 5)	'B'	B=Both for Day and Night Flag. Product specific for: LARC_ISCCP, sage_atmos_com p, LARC_FIRE, erbe_erp, sage_atmos_dyn, LARC_GTE
					'0'	Product specific for: EDC_LANDSAT_LAND_SFC_ VEG
					'10'	Product specific for: EDC_LANDSAT_LAND_SFC_ VEG
					'20'	Product specific for: EDC_LANDSAT_LAND_SFC_ VEG
					'30'	Product specific for: EDC_LANDSAT_LAND_SFC_ VEG
					'40'	Product specific for: EDC_LANDSAT_LAND_SFC_ VEG
					'50'	Product specific for: EDC_LANDSAT_LAND_SFC_ VEG
					'60'	Product specific for: EDC_LANDSAT_LAND_SFC_ VEG
					'70'	Product specific for: EDC_LANDSAT_LAND_SFC_ VEG
					'80'	Product specific for: EDC_LANDSAT_LAND_SFC_ VEG
					'90'	Product specific for: EDC_LANDSAT_LAND_SFC_ VEG
NonCoreAttribute ValueAccuracy	An estimate of the accuracy of the assignment of attribute value AVHRR: Measurement Error or Precision=Measurement error or precision of a data p roduct parameter. This can be specified in percent or the units with which the parameter is measured.	InformationC ontentAttribut e	FGDC, Entity/A ttribute Informa tion	char(30)	'B'	B=BOTH. Product specific for: LARC_GTE
NonCoreAttribute ValueAccuracyEx planation	This defines the method used for determining the Non Core Attribute Accuracy tha t is given for this non core attribute.	InformationC ontentAttribut e	FGDC Entity/A ttribute Informa tion	char(25 5)		
NonInstrumentLo ngName	The full name of the noninstrument providing data. e.g. NonInstrumentLongName='Earley Analysis Field'	NonInstrume nt	DMWG	char(80)		
NonInstrumentSh ortName	The acronym, abbreviation, or short name by which the noninstrument is commonly known. e.g. NonInstrumentShortName='ERL'	NonInstrume nt	DMWG	char(20)		
NonInstrumentTy pe	The type of noninstrument data being provided. e.g. NonInstrumentType='Predictive Forecast'	NonInstrume nt	Engine ering judgem ent	char(20)		

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
NorthBoundingCoordinate	Northern-most coordinate of the limit of coverage expressed in latitude.	BoundingRectangle	FGDC 6/8/94	real	-90.0 <= North Bounding Coordinate <= 90.0;	
					North Bounding Coordinate => South Bounding Coordinate	
NumberofCollections	Number of collections in logical data server.	ECSListofCollections	Dataserver Subsystem Analysis, 6/95	int		
NumberofSensors	The number of sensors carried by the instrument.	Instrument	Engineering judgement	integer	[1: N]	Instrument will carry a minimum of one sensor, and as many as N sensors.
OperationMode	The instrument's operational modes associated with the channel, wavelength, and FOV (e.g., launch, survival, initialization, safe, diagnostic, standby, crosstrack, biaxial, solar calibration).	Instrument	CERES data analysis	char(255)	Cross Track	Product-specific for: ceres_erp, ceres_L0/L1
					Rotating Plan	Product-specific for: ceres_erp, ceres_L0/L1
					1-4	Product-Specific for: GSFC_CZCS_L0/L1
OperationalQualityFlag	The collection and granule level flag applying both generally and specifically t o parameters at the granule level.	QACollectionStats	Post DMWG Meeting on QA, 6/21/95	char(20)	{parameter name} passed	The collection or granule (for {parameter name}) has passed a specified operatio nal test.
					{parameter name} failed	The collection or granule (for {parameter name}) has failed a specified operatio nal test.
					{parameter name} being investigated	The collection or granule (for {parameter name}) is being investigated using an operational test tool.
					{parameter name} not being investigated	The collection or granule (for {parameter name}) is not being investigated using an operational test tool.
					N/A	
OperationsManualName	Contains the name of the Operations Manual algorithm description.	OperationsManual		char(64)		
OrbitID	Unique identifier for an orbit	OrbitCalculatedSpatialDomain				
OrbitNumber	The orbit number to be used in calculating the spatial extent of this data.	OrbitCalculatedSpatialDomain	DMWG Granule Subgroup, 8/94; Landsat/GLIS			

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
OrbitParameters UR	Represents a granule level pointer to the orbit parameter information.	OrbitParamet ersGranule	Subsys tem analysi s, 6/95	UR type		
OrbitalModelNam e	The reference to the orbital model to be used to calculate the geolocation of th is data in order to determine global spatial extent.	OrbitCalculat edSpatialDo main	DMWG Granul e Subgro up 8/94			
OrdinateResoluti on	The (nominal) minimum distance between the 'y' or row values of two adjacent poi nts, expressed in Planar Distance Units of measure.	CoordinateR epresentation		real	Ordinate Resolution > 0.0	
PackageID	This attributes describes the Package Identifier (on the shelf, collection of ta pes or CD-ROMs)	SingleTypeC ollection				
ParameterGroup	This attribute specifies a word or phrase which serves to summarize the scientif ic discipline(s) which the collection covers. It may be repeated to accomodate those collections which overlap more than one discipline.	SingleTypeC ollection	NASA/ NSSDC DIF Manual , Parame ter Keywor ds, Append ix C	compo und		
ParameterTopic	This attribute specifies a word or phrase which serves to summarize the geophysi cal parameters referenced in the collection. It may be repeated, in case the co llection qualifies for several of these keyword values.	SingleTypeC ollection	NASA/ NSSDC DIF Manual , Parame ter Keywor ds, Append ix E	char(15)	Reflectance	Product specific for: GSFC_TOMS_ATMOS_COM P
					Ozone	Product specific for: GSFC_TOMS_ATMOS_COM P
					deg c	degrees celsius. Product specific for: GSFC_CZCS_L0_L1
					m	meters. Product specific for: GSFC_CZCS_L0_L1
					m/s	meters per second. Product specific for: GSFC_CZCS_L0_L1
					deg k	degrees Kelvin. Product specific for: GSFC_CZCS_L0_L1
					Radar Reflectivity	Product specific for: MSFC_PR_L0_L1
					Total Power	Product specific for: MSFC_PR_L0_L1
					Rainfall	Product specific for: MSFC_PR_ATMOS_DYN
					Water Content	Product specific for: MSFC_PR_ATMOS_DYN
					Hydro- meteor Profiles	Product specific for: MSFC_PR_ATMOS_DYN

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					Antenna Temperature	Product specific for: MSFC_SSMI_ATMOS_COMP
					Brightness Temperature	Product specific for: MSFC_SSMI_ATMOS_COMP, MSFC_SMMR_L0_L1
					Cloud-Rain Liquid Water	Product specific for: MSFC_SSMI_ATMOS_DYN
					Columnar Water Vapor	Product specific for: MSFC_SSMI_ATMOS_DYN
					Precipitation Rate	Product specific for: MSFC_SSMI_ATMOS_DYN
					Land Surface Temperature	Product specific for: MSFC_SSMI_LAND_AUX
					Land Classification	Product specific for: MSFC_SSMI_LAND_AUX
					Lightning Flash(es)	Product specific for: MSFC_SSMI_INSITU_ATMOS _DYN
					Groups	Product specific for: MSFC_LIS_ATMOS_DYN
					Events	Product specific for: MSFC_LIS_ATMOS_DYN
					Orbit	Product specific for: MSFC_LIS_ATMOS_DYN
					Areas	Product specific for: MSFC_LIS_ATMOS_DYN
					Flashes	Product specific for: MSFC_LIS_ATMOS_DYN
					Background Images	Product specific for: MSFC_LIS_ATMOS_DYN
					Pulse Vector Product	Product specific for: MSFC_LIS_ATMOS_DYN
					Pulse Browse	Product specific for: MSFC_LIS_ATMOS_DYN
PathNumber	The path (subset of an orbit) of the satellite when collecting this data, to be used in determining the spatial extent of the data.	OrbitCalculatedSpatialDomain	DMWG Granule Subgroup 8/94; EDC V0 Data Dictionary			
PerformanceTest ResultsName	Contains the name of the Performance Test Results algorithm description.	Performance TestResults		char(64)		
Period1stDate	This attribute provides the date of the first occurrence of this regularly occur ring period which is relevant to the collection, granule, or event coverage.	RegularPeriodic		date		
Period1stTime	This attribute denotes the time of the first occurrence of this regularly occurr ing period which is relevant to the collection, granule, or event coverage.	RegularPeriodic		time		

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
PeriodCycleDurationUnit	The unit specification of the period cycle duration. e.g. the RegularPeriodic event 'Spring-North Hemi' might have a PeriodDurationUnit='month' PeriodDurationValue=3.0 PeriodCycleDurationUnit='year'	RegularPeriodic	Engineering judgement	char(15)	decade	
					year	
					month	
					week	
					day	
					hour	
					minute	
					second	
					microsecond	
					millisecond	
PeriodCycleDurationValue	The number of PeriodCycleDurationUnits in the period cycle. e.g. the RegularPeriodic event 'Spring-North Hemi' might have a PeriodDurationUnit='month' PeriodDurationValue=3.0 PeriodCycleDurationUnit='year'	RegularPeriodic	Engineering judgement	float	> 0.0	
PeriodDurationUnit	The unit specification for the period duration. e.g. 'decade','year','month',others.	RegularPeriodic	Engineering judgement	char(15)	year	
					month	
					week	
					day	
					hour	
					minute	
					second	
					millisecond	
					microsecond	
					decade	
PeriodDurationValue	The number of PeriodDurationUnits in the RegularPeriodic period. e.g. the RegularPeriodic event 'Spring-North Hemi' might have a PeriodDurationUnit='month' PeriodDurationValue=3.0 PeriodCycleDurationUnit='year'	RegularPeriodic	Engineering judgement	float	> 0	
PeriodName	The name given to the recurring time period. e.g. 'spring - north hemi.'	RegularPeriodic		char(30)	Winter	Product-specific for: sage_atmos_dyn
					Spring	Product-specific for: sage_atmos_dyn
					Summer	Product-specific for: sage_atmos_dyn
					Autumn	Product-specific for: sage_atmos_dyn
					Monthly	Product-specific for: sage_atmos_dyn

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
PlanarCoordinate EncodingMethod	The means used to represent horizontal positions in the planar coordinate system .	PlanarCoordi nateInformati on	FGDC 6/8/94	char(80)	coordinate pair	Will require description of encoding method in 'Coordinate Representation' in te rms of abscissa and ordinate resolutions.
					distance and bearing	Will require encoding method description using 'Distance and Bearing Representat ion', in terms of distance resolution, bearing resolution, bearing units, bearin g reference direction, and bearing reference meridian.
					row and column	Will require encoding method description using 'Coordinate Representation', in t erms of abscissa and ordinate resolutions.
PlanarDistanceU nits	Units of measure used for planar coordinate description distances.	PlanarCoordi nateInformati on	FGDC 6/8/94	char(80)	meters	
					international feet	
					survey feet	
PlannedDataSets	Free text field to describe planned data sets.	ProductionPl an		char(25 5)		
PlatformCharacte risticName	The name of the particular platform characteristic being described. e.g. PlatformCharacteristicName='LaunchDate', PlatformCharacteristicValue='June 1998', PlatformCharacteristicUnit='NA', PlatformCharacteristicType='date'	PlatformChar acteristic	Engine ering Judge ment	char(80)	launch date	
					stop date	
					mission objectives	
					platform number	
					start orbit	
					stop orbit	
					orbit characteristic	
PlatformCharacte risticUnit	The unit of measurement used in the value to characterize the platform. e.g. PlatformCharacteristicName='LaunchDate', PlatformCharacteristicValue='June 1998', PlatformCharacteristicUnit='NA', PlatformCharacteristicType='date'	PlatformChar acteristic	Engine ering judgem ent	char(20)		
PlatformCharacte risticValue	The value of the named platform characteristic being described. PlatformCharacteristicName='LaunchDate', PlatformCharacteristicValue='June 1998', PlatformCharacteristicUnit='NA', PlatformCharacteristicType='date'	PlatformChar acteristic	Engine ering judgem ent	char(20)		

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
PlatformLongName	The long name assigned to the satellite i.e., Earth Observing System Morning Crossing	Platform	GCMD, V0 Data Dictionary	char(80)	LARC_ISCCP Geostationary Meterological Satellite-1,2,3,4	For the ISCCP data products
					LARC_ISCCP Geostationary Operational Environmental-5,6,7	For the ISCCP data products
					LARC_ISCCP National Oceanic and Atmospheric Administration	For the ISCCP and SRB data products
					LARC_ISCCP Geostationary Meterological Satelite	For the SRB data products
					LARC_ISCCP Geostationary Operational Environmental	For the SRB data products
					erbe_erp_Earth Radiation Budget Satellite	
					erbe_erp_National Oceanic and Atmospheric Admin-9	
					erbe_erp_National Oceanic and Atmospheric Admin-10	
PlatformShortName	The acronym, abbreviation, or short name assigned to the satellite i.e. LARC_ISCCP GMS-3	Platform	GCMD; V0 Data Dictionary	char(20)	sage_atmos_dyn_ERBS	
					LARC_ISCCP GMS-3	For ISCCP and SRB data products
					LARC_ISCCP GOES-6	For ISCCP and SRB data products
					LARC_ISCCP GOES-7	For ISCCP and SRB data products
					LARC_ISCCP METEOSAT-2	For ISCCP and SRB data products
					LARC_ISCCP METEOSAT-3	For the ISCCP data products

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					LARC_ISCCP NOAA-10	For ISCCP and SRB data products
					LARC_ISCCP NOAA-11	For ISCCP data products
					LARC_ISCCP NOAA-7	For ISCCP data products
					LARC_ISCCP NOAA-9	For ISCCP and SRB data products
					LARC_ISCCP GOES-5	For the ISCCP data products
					LARC_ISCCP METEOSAT-4	For the ISCCP data products
					LARC_ISCCP GMS-1	For the ISCCP data products
					LARC_ISCCP GMS-2	For the ISCCP data products
					LARC_ISCCP NOAA-8	For the ISCCP data products
					LARC_ISCCP ERBS	For SRB data products
					sage_atmos_comp_ERBS	
					ceres_erp_TRMM	
					ceres_L0/L1_TRMM	
					LARC_ISCCP GMS-4	For the ISCCP data products
					erbe_erp_ERBS	Products: s10_mfov_NF_NAT S10_MFOV_SF_NAT S10_WFOV_NF_NAT S10_WFOV_SF_NAT
					erbe_erp_NOAA-9	PRODUCTS: SAME AS ERBS
					erbe_erp_NOAA-10	PRODUCTS: S10_WFOV_NF_NAT S4G_WFOV_SF_NAT S2_NAT
					GSFC_TOMS_ATMOS_COMP_Nimbus-7	
					GSFC_TOMS_ATMOS_COMP_Meteor-3	
					GSFC_CZCS_L0/L1_Nimbus-7	
					EDC_LANDSAT Landsat	
					GSFC_AVHRR_LAND_SFC_VEG NOAA -9	

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					GSFC_AVHRR_LAND_SFC_VEG NOAA -7	
					GSFC_AVHRR_LAND_SFC_VEG NOAA -11	
PointLatitude	A single latitudinal coordinate value between -90.0 and 90.0	Point		real	-90.0 <= Latitude Coordinate Point <= 90.0	
PointLongitude	A single longitudinal coordinate point.	Point		real	-180.0 <= Longitude Point <= 180.0	
PointVectorObjectInforAttribute	The types and numbers of vectors or nongridded point spatial objects in the data object. The types must be specified using either SDTS terms (per chapter 2 of part 1 of FIPS 173: Spatial Data Transfer Standard) or VPF terms (per MIL-STD-60 0006: Vector Product Format); SDTS descriptions should include the object type and count, VPF descriptions should include the topology level and object type.	PointVectorObjectInformation	FGDC 6/8/94		N/A	Not Applicable; used of the data uses Raster rather than Point and Vector spatial objects, or if no direct spatial reference method is used.
PointZValue		Point		real		
PointandVectorObjectCount	The total number of the point or vector object type occurring in the data set.	SDTSPointTypeandCount	FGDC 6/8/94	int	Point and Vector Object Count > 0	
PointandVectorObjectCount	The total number of the point or vector object type occurring in the data set.	VPFPointTypeandCount	FGDC 6/8/94	int	Point and Vector Object Count > 0	
PostalCode	The zip or other postal code of the address	ContactAddress	FGDC 6/8/94	char(20)	Free Text	
ProcessingFileDescriptionName	Contains the name of the Processing File Description algorithm description.	ProcessingFileDescription		char(64)		
ProcessingLevelDescription	This attribute provides a set of characteristics that can be combined to define a new science processing level.	ProcessingLevel	DMWG 8/31/94	char(80)	RAW	raw measurements
					CNTS	converted to counts
					RADCORR	radiometrically corrected
					1BRAD	Level 1B radiances
					GEOQUANT	counts converted to geophysical quantities
					GEOLOC	geolocated
					GRID	gridded
ProcessingLevelID	This attribute reflects the classification of the science data processing level, which defines in general terms the characteristics of the output of the processing performed.	ProcessingLevel	ECS F&PRS; CODMAC and ESADS definitions; EOS Data Panel Report	char(6)	0	Raw instrument data at original resolution, time ordered, with duplicate packets removed. Product specific for: ceres_L0_L1 --- for product cer00

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					1A	Level 0 data, which may have been reformatted or transformed reversibly, located to a coordinate system, and packaged with needed ancillary and engineering data .
					1B	Radiometrically corrected and calibrated data in physical units at full instrume nt resolution as acquired.
					2	Retrieved environmental variables (e.g., ocean wave height, soil moisture, ice c oncentration) at the same location and similar resolution as the Level 1 source data. Product specific for: LARC_FIRE, ceres_erp -- for cer11 and cer04, LARC_G TE, erbe_erp --- S7_NAT, S8_NAT, S4G_MFOV_NF products
					3	Data or retrieved environmental variables that have been spatially and/or tempor ally resampled (i.e., derived from Level 1 or Level 2 data products). Such resa mpling may include averaging and compositing. Product specific for: LARC_ISCCP, ceres_erp --- products cer03, cer05, cer07, cer08, cer12, cer16, erbe_erp ---al l other products, GSFC_TOMS_ATMOS_COM P
					4	Model output and/or variables derived from lower level data which are not direct ly measured by the instruments. For example, new variables based upon a time se ries of Level 2 or Level 3 data.
					Not Available	
					Not Applicable	Under review by AHWGP
					1	Product specific for: ceres_L0_L1 --- for products cer09,cer01
ProcessingLocati on	IDPGF(Identifier for the Product Generating Facility) where product was processe d.	ProcessingLe vel		char(30)		
ProducersGranul eIdentifier	Data Producers unique identifier for the granuleUnique for all granules from a g iven producer.	ECSDataGra nule		char(32)		
ProductionHistory UR	Represents a pointer to the granule level production history file.	ProductionHi story	Subsys tem analysi s, 6/95	UR type		

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
ProgrammersGuideName	Contains the name of the Programmers Guide algorithm description.	Programmers Guide		char(64)		
Progress	This attribute describes the state of the collection, whether it is planned but not yet existent, partially complete due to continual additions from remotely se nsed data/processing/reprocessing, or is considered a complete product/dataset.	SingleTypeCollection	DMWG 8/31/94	text(255)	Completed	All currently planned collection, processing, and reprocessing are complete for this product/dataset/collection.
					In Work	Data is currently either being collected, processed, or reprocessed for this pro duct/dataset/collection.
					Planned	Data has not yet been collected or processed for this product/dataset/collection .
QAGranuleUR	Collection and/or granule level file/granule containing specific statistics.	QAGranule	Post DMWG Meetin g on QA 6/21/95	UR type		
QAPercentInterpolatedData	Granule level (also for {parameter}) % interpolated data.	QAStats	Post DMWG meetin g on QA 6/21/95	int		
QAPercentMissingData	Granule level (also for {parameter}) % missing data.	QAStats	Post DMWG meetin g on QA 6/21/95	int		
QAPercentOutofBoundsData	Granule level (also for {parameter}) % out of bounds data.	QAStats	Post DMWG meetin g on QA 6/21/95	int		
QualityTextCommentUR	Collection level pointer to Quality Text Comment document.	QualityTextComment	Post DMWG Meetin g on QA, 6/21/95	UR type		
Radius		Circle		real		
RadiusofGranulefromCenter	Radius of granule from center (measured to corners).	ECSDataGranule		int(22)float	O	Product specific for: GSFC_AVHRR_LAND_SFC_VEG
					180	Product specific for: GSFC_AVHRR_LAND_SFC_VEG

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
RangeBeginning Date	The year (and optionally month, or month and day) when the temporal coverage period being described began. GSFC AVHRR Data Product Start Date represents the start date of the earliest granule contained in the product.	RangeDateTime	scen 15,8,23 b;FGD C Time Period Information; CEOS catalogue subgroup, Version 0	date	MM/DD/YYYY	Product-specific for: sage_atmos_dyn, sage_atmos_comp, erbe_erp
					MMDDYYYY	Product-specific for: LARC_FIRE, LARC_GTE
RangeBeginning Time	The first hour (and optionally minute, or minute and second) of the temporal coverage period being described.	RangeDateTime	scen 15,8,23 b; FGDC Time Period Information;CE OS catalogue subgroup	time		
RangeEndingDate	The last year (and optionally month, or month and day) of the temporal coverage period being described. GSFC AVHRR This date represents the end date of the latest granule contained in the product.	RangeDateTime	scen 15,8,23 b; FGDC Time Period Information;CE OS catalogue subgroup,Version 0	date	UNKNOWN	The value 'UNKNOWN' should be used whenever the ending date has not been provided and it is known that it is NOT the present.
					PRESENT	The domain value 'PRESENT' should be used whenever the ending date is variable because the data collection is still being collected, or because the event is still occurring. It should not be used for granule periodicity.
					MM/DD/YYYY	Product-specific for: sage_atmos_dyn, sage_atmos_comp, erbe_erp
					MMDDYYYY	Product-specific for: LARC_FIRE, LARC_GTE

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
RangeEndingTime	The last hour (and optionally minute, or minute and second) of the temporal cove rage period being described.	RangeDateTime	scen 15,8,23 b;FGD C Time Period Informa tion; CEOS catalog ue subgro upta	time	UNKNOWN	The value 'UNKNOWN' must be used when the ending date/time of the temporal cover age period is not specified and is known NOT to be the present.
					PRESENT	The domain value 'PRESENT' will be used whenever the ending date is variable bec ause the data collection is still being collected, or the event is still occurri ng. It should not be used for granule periodicity.
RasterObjectType	The types and numbers of raster spatial objects in the collection. This will be specified in terms of row count, column count, plus an optional vertical dimens ion count.	RastorObject Information	FGDC 6/8/94	char(10)	Point	
					Pixel	
					Grid Cell	
					Voxel	
ReferencePaperID	Contains the unique ID of the Reference Paper as issued by publisher, such as 'N OS NSG 5', or 'JPL Publication 91-29'.	ReferencePa per	scenari os 9a,13	char(20)		
ReferencePaperType	Contains the type of reference paper.	ReferencePa per	Engine ering judgem ent	char(40)	StandAlone Document	
					Journal Article	
ReprocessingActual	Granule level, stating what reprocessing has been performed on this granule.	ECSDataGra nule	DMWG Product ion History Meetin g 6/21/95	char(20)	processed once	
					reprocessing once	
					reprocessing twice	
ReprocessingPlanned	Granule level, stating what reprocessing may be performed on this granule.	ECSDataGra nule	DMWG Product ion History Meetin g 6/21/95	char(20)	no further update anticipated	
					further update is anticipated	

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					further update anticipated using enhanced PGE	
ResolvedProblem ReportFilename	This attribute identifies problem(s) resolved with this delivery and provides th e method of resolution.	ChangeLog				
RevisionDate	Represents the date and possibly the time that this directory entry was created or the latest data and time of its modification or update.	ECSCollectio n	DMWG 5/5/95; DIF	char(20)		
Role	Classification of individuals who are associated with a given data set	Contact		char(16)	Archive	
					Producer	
					Distributor	
					Source	
RowCount	The maximum number of raster objects along the ordinate (y) axis. For use with r ectangular raster objects.	RastorObject Information	FGDC 6/8/94	int	Row Count > 0	
SDTSPointandVe ctorObjectCount	Name of point and vector spatial objects used to locate zero-, one-, two-dimensi onal spatial locations in the data set.	SDTSPointTy peandCount	FGDC 6/8/94	char(30)		
SWDevelopment StandardName	Contains the name of the SW Development Standard algorithm description.	SWDevelop mentStandar d		char(64)		
ScienceQualityFl ag	Collection and granule level flag applying both generally and specifically to pa rameters at the granule level.	QACollection Stats	Post DMWG Meetin g on QA, 6/21/95	char(20)	{parameter name} passed	The collection or granule (for {parameter}) has passed a specified science test.
					{parameter name} failed	The collection or granule (for {parameter name}) has failed a specified science test.
					{parameter name} being investigated	The collection or granule (for {parameter}) is being investigated by an expert.
					{parameter name} not being investigated	The collection or granule (for {parameter name}) is not being investigated by an expert.
					N/A	
ScienceReviewD ate	Date of last QA peer review.	Review	PLDS, GCMD	date YYYY/ MM/DD		

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
ScienceReviewStatus	Type of Review which occurred on the 'Science Review Date'	Review	EOSDIS Project Scientist QA Approach Version 3 10/18/94, Lutz/Wharton	char(20)	QA within Software	From QA Approach Draft Version 3: 'Within the science team algorithm processing software, initial QA can be 'built in' during the routine processing/generation of the data. The QA defined here should be written by science team personnel, incorporated within the science processing algorithm, and performed at the DAAC that is processing the data. This QA would be completely automated and be performe
					QA at DAACs	From QA Approach Draft Version 3: 'In general, the DAAC's QA role would be to ensure that the data are generated within the quality specifications defined by the science teams. An additional role of the DAAC is to ensure the integrity of the data--i.e., that data are not corrupted in the transfer, archival, or retrieval process. ...'
					QA at SCF	From QA Approach Draft Version 3: 'Portions of the data products would be examined at the SCFs...This effort would most likely include human analysis and be done possibly in the timeframe of 1 week to a month [after production]. Techniques such as trend analysis of the data may be done at this step, as well as a more robust statistical analysis and visual analysis.'
					QA by data consumers	From QA Approach Draft Version 3: 'As data products are utilized by the users, another level of QA will take place. Certain errors within the data may be discovered only through an intense analysis of the data....It should be noted that a significant volume of the QA results of this step...[will be found] in journal articles or conference papers (flags within the metadata...make the user aware th

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					None	The status must be set, and cannot default to having been completed. None also applies to those data which are ingested from external sources and are not known to have been subjected to any form of quality assurance, or have quality rating s for which the definitions are not available.
SemiMajorAxis	Radius of the equatorial axis of the ellipsoid.	GeodeticModel	FGDC 6/8/94	real	Semi-major Axis > 0.0	
SensorCharacteristicName	The name of the characteristic which describes a single aspect of a sensor. e.g. for SensorCharacteristicName='ChannelSpectrumStart', SensorCharacteristicValue='0.4', SensorCharacteristicUnit='micrometer',	SensorCharacteristic	Engineering Judgement	char(80)	ChannelSpectrumStart	Contains the minimum wavelength of the spectral range of the channel. Aliases include:
					ChannelSpectrumEnd	Contains the maximum wavelength of the spectral range of the channel. Aliases include:
					ChannelCenterWavelength	Contains the center wavelength of the spectral range of the channel. Aliases include:
					ChannelQuality	A textual description of the current state of this channel on this detector, reflecting the degree of degradation and its impact on resolution or measurement accuracies. The author's name should be listed for accountability and the date written for user reference.
					ChannelDataAccuracy	Server-specific aliases include: MSFC_TSDIS MSFC_PR_L0_L1 MSFC_RADAR_TAPES_L0_L1 MSFC_TMI_L0_L1
SensorCharacteristicType	The type of the sensor characteristic. e.g. SensorCharacteristicName='ChannelSpectrumStart', SensorCharacteristicValue='0.4', SensorCharacteristicUnit='micrometer', SensorCharacteristicType=''	SensorCharacteristic	Engineering judgement	char(20)		

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
SensorCharacteristicUnit	The unit of measurement of the SensorCharacteristicValue associated with a particular sensor characteristic. e.g. for; SensorCharacteristicName='ChannelSpectrumStart', SensorCharacteristicValue='0.4', SensorCharacteristicUnit='micrometer',	SensorCharacteristic		char(20)	micrometer	
					nanometer	
					nautical mile	
					megahertz	
					gigahertz	
					others	
SensorCharacteristicValue	The value associated with a particular sensor characteristic. e.g. for SensorCharacteristicName='ChannelSpectrumStart', SensorCharacteristicValue='0.4', SensorCharacteristicUnit='micrometers', SensorCharacteristicType=''	SensorCharacteristic	Engineering judgement	char(20)		
SensorLongName	The long name by which the sensor is commonly known.	Sensor	DMWG	char(80)		
SensorName	Contains the name of the Sensor Instrument guide document.	SensorInstrumentGuide		char(64)		
SensorShortName	The acronym, abbreviation, or short name by which the sensor is commonly known.	Sensor	DMWG	char(20)		
SensorType	The type of sensor being described. More values in: Ref Handbk.	Sensor	1995 MTPE EOS Reference Handbook	char(40)	active cavity radiometer	
					array grating spectrometer	
					passive microwave radiometer	
					multispectral imaging radimeter	
					radar altimeter	
					tri-frequency microwave radiometer	
					dual-frequency radar altimeter	
					eight-channel opto-mechanical scanner	
					Whiskbroome scanning radiometer	
					laser altimeter	
					infrared limb sounder	

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					broadband scanning radiometer	
ShortName	This name will identify the short name associated with the collection or granule . This includes the ECS Technical Baseline product names, i.e. CER02, MOD12, et c. This is the official reference name used in identifying the contents of the data collection.	ECSCollection	SPSO; Scenarios; existing systems; engineering judgement	char(8)		
SizeMBECSData Granule	The size attribute will indicate the volume of data contained in the granule.	ECSDataGranule	system design	int(5)		
SourceName	Contains the name of the Source Platform guide document.	SourcePlatformGuide		char(64)		
SouthBoundingC oordinate	Southern-most coordinate of the limit of coverage expressed in latitude.	BoundingRectangle	FGDC 6/8/94	real	-90.0 <= South Bounding Coordinate <= 90.0;	
					South Bounding Coordinate <= North Bounding Coordinate	
SpatialCoverage Type	This attribute denotes whether the locality/coverage requires horizontal, vertic al or both spatial domain and coordinate system definitions.	Spatial	Data Engineering	char(10)	HORIZ&VERT	
					Vertical & Horizontal	For product specific LARC_ISCCP.
					Horizontal	For products cer02,cer03,cer11,cer05,cer07 ,cer12,cer16,cer04. For product specif ic CERES_ERP, CERES_L0_L1, LARC_ISCCP, LARC_FIRE, LARC_GTE, SAGE_ATMOS_DYN, SAGE _ATMOS_COMP, GSFC_TOMS_ATMOS_COM P, GSFC_CZCS_L0_L1, ERBE_ERP.
					Vertical	For products cer02,cer03,cer11,cer05,cer07 ,cer12,cer16,cer04. For product specif ic CERES_ERP, CERES_L0_L1, LARC_FIRE (C12-Raman-Lidar), SAGE_ATMOS_DYN, SAGE_ATM OS_COMP, GSFC_TOMS_ATMOS_COM P.

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
SpatialKeyword	This attribute specifies a word or phrase which serves to summarize the spatial regions covered by the collection. It may be repeated if several regions are co vered. This often occurs when a collection is described as covering some large region, and several smaller subregions within that region.	SingleTypeC ollection	NASA/ NSSD C DIF Manual , Locatio n Keywor ds, Append ix D	char(10)	Tropical Region	Between 35 N and 35 S, Product specific for: MSFC_PR_ATMOS_DYN, MSFC_PR_L0_L1
					Global	'Global' means boundaries (in degrees) of 70 N and 70 S for MicroLab (OTD), and 35 N and 35 S for TRMM. (Also pixel resolution differs: is 4 km for TRMM and 8 km for OTD). Product specific for: MSFC_LIS_ATMOS_DYN, MSFC_SSMI_LAND_AUX
					Over the Ocean	Product specific for: MSFC_TOVS_OCEAN_DYN
					CONUS	Continental United States. This data covers 70 degrees East-West x 33 degrees N orth-South. Product specific for: MSFC_SSMI_INSITU_ATMOS _DYN
StartDate	The beginning date for which the production plan is applicable.	ProductionPl an		datetim e		
StartOrbitNumber	TRMM orbit number at start of data collection	OrbitCalculat edSpatialDo main				
StateProvince	The state or province of the address.	ContactAddr ess		char(20)	free text	
StopOrbitNumber	TRMM orbit number at end of data collection	OrbitCalculat edSpatialDo main				
StorageMedium	Type of medium on which the data are currently stored.	ECSCollectio n	DMWG 5/5/95; DIF	char(30)		
StorageStrategy	Contains free text describing the storage strategy for subsetting.	ProjectSubse ttingGuide		char(25 5)		
StreetAddress	An address line for the address, used for mailing or physical addresses of organ izations or individuals who serve as points of contact.	ContactAddr ess	FGDC 6/8/94	char(80)	free text	
SuggestedUsage	This attribute describes how this collection or granule may be best used to supp ort earth science/global change research.	ECSCollectio n	engine ering judgem ent	text(50 0)		
SystemDescriptio nName	Contains the name of the System Description algorithm description.	SystemDescr iption		char(64)		
TelephoneNumb er	Number of org or individual serving as a point of contact. Number is used to spe ak to the org or individual, the TDD /TTY number which hearing-impaired can conv erse with org or indiv., or the fa(x)csimile number of the org's / indiv.The gen'l format of the number i ncludes country,area, and STD codes, as req'd for the full telephone number.Mult	Telephone	FGDC 6/8/94	char(23)	Free Text	

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
TelephoneNumberType	The type of telephone number being provided in this instance of the phone number, in order to reach the organization or individual who serves as a point of contact.	Telephone	FGDC 6/8/94	char(10)	Voice	
					TDD/TTY	
					Facsimile	
TemplateName	The name of the template which the document is based upon.	Document	Engineering judgement	char(128)		
TemplateVersion	The version level of the template which the document is based upon.	Document		char(8)		
TemporalKeyword	This attribute specifies a word or phrase which serves to summarize the temporal characteristics referenced in the collection.	SingleTypeCollection	DMWG 8/31/94	char(10)	Monthly Composite	
					Daily Average	Temporal Resolution. Product specific for: MSFC_V0, MSFC_SMMR_L0_L1
					Annual Mean	
					5-Day Average	Temporal Resolution. Product specific for: MSFC_PR_ATMOS_DYN, MSFC_PR_L0_L1
					Monthly Total	Temporal Resolution. Product specific for: MSFC_LIS_ATMOS_DYN
					October 30 1978-June 22 1986 6 day repeat cycle	Product specific for: GSFC_CZCS_L0_L1
					Daily Total	Product specific for: MSFC_PR_ATMOS_DYN, MSFC_PR_L0_L1, MSFC_INSITU_ATMOS_DYN
					Monthly Average	Product specific for: MSFC_PR_ATMOS_DYN, MSFC_PR_L0_L1
					Daily	Product specific for: MSFC_SSMI_ATMOS_COMP, MSFC_SSMI_ATMOS_DYN, MSFC_SSMI_LAND_AUX, MSFC_INSITU_ATMOS_DYN,
TemporalRangeType	This attribute tells the system and ultimately the end user how temporal coverage is specified for the collection, granule, or event.	Temporal	Discussion with CSC following DMWG; Base from FGDC Time Period Information	char(20)	PERIODIC	Regularly occurring periods of equal time
					POINT IN TIME	A single date and time, usually used for in-situ measurements.

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
					CONTINUOUS RANGE	A single continuous range of time with a discrete start date time and stop date time.
					sage_atmos_dyn_CONTINUOUS RANGE	
					LARC_ISCCP Periodic	
					sage_atmos_comp_Periodic	Sage2_O3_Monthly Product
					ceres_erp_Periodic	
					ceres_l0/l1_Periodic	
					LARC_FIRE Periodic	
					erbe_erp_Periodic	
					LARC_GTE Periodic	
					GSFC_TOMS_ATMOS_COMP_PERIODIC	
					GSFC_CZCS_L0/L1_Periodic	
					GSFC_AVHRR_LAND_SFC_VEG Periodic	
					DISCONTINUOUS MULTIPLE RANGE	A span of time with irregular temporal coverage gaps, requiring the use of multi ple start/stop datetime pairs to denote the complete coverage
					MULTIPLE POINT IN TIME	Multiple occurences of single date and time points.
TestPlanName	Contains the name of the Test Plan algorithm description.	TestPlan		char(64)		
TimeType	This attribute provides the time system which the values found in temporal subcl asses represent.	Temporal	SPSO Database values	char(10)	UTC	Coordinated Universal Time
					UT	Universal time, Utah
					LOCAL	Denotes local time, often used for point or in-situ data
					GSFC_CZCS_L0/L1_GMT	HHMMSS
TimeofDay	The hour (and optionally minute, or minute and second) of the day. This attribu te is used to specify a single point in time covered by a data collection, granu le, or event. In the GSFC_CZCS collection this would reflect the Pass_time whic h is the time of the first scan of the scene.	SingleDateTime	FGDC	time	UNKNOWN	If the time of day is not available to specify temporal coverage, the value 'unk nown' will be provided.

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
Title	The full title of the document.	Document	Engineering judgement	char(255)		
Type	Contains an identifier indicating the type of Computer Science Data Type.	CSDT		char(40)		
Type	i.e. C source code, makefile, test data, defect list, etc.	PGEConfigFile				
TypeId	The type identifier of the document.	Type		char(40)		
TypeName	The name of the document type.	Type		char(64)	Reference Paper	
					Guide	
					Production Plan	
					Algorithm Description	
URL	The Uniform Resource Locator retrieval protocol specification indicating the retrieval method and pointer to the document. e.g. 'http://earth.gsfc.nasa.gov/campaign/documents/index.html/'	Document	Engineering judgement	char(255)		
URofECSBrowse	Pointer to collection and/or granule level browse file.	Browse	ESDIS CORE Update Mtg, 6/29/95	UR type		
UnresolvedProblemReportFilename	This attribute identifies any known defects and highlights their impacts.	ChangeLog				
UserCommentDocumentUR	Collection level pointer to userfile containing user comments.	UserCommentDocument	Post DMWG Meeting on QA, 6/21/95	UR type		
VPFPointandVectorObjectType	Name of point and vector spatial objects used to locate zero-, one-, and two-dimensional spatial locations in the data set.	VPFPointTypeandCount	FGDC 6/8/94	char(10)	Node	
					Edge	
					Face	
					Text	
VPFTopologyLevel	The completeness of the topology carried by the data set.	VPFTermsDescription	FGDC 6/8/94	int	0	
					1	
					2	
					3	
ValidationDocumentUR	Collection level pointer to Validation Document.	ValidationDocument	Post DMWG Meeting on QA, 6/21/95	UR type		
VersionID	Version identifier for the dataset	SingleTypeCollection		text(255)		
WestBoundingCoordinate	Western-most coordinate of the limit of coverage expressed in longitude.	BoundingRectangle	FGDC 6/8/94	real	-180.0 <= West Bounding Coordinate <= 180.0	

Attribute	Attribute Description	Class	Source	Data Type	Domain Value	Domain Description
ZoneIdentifier	The appropriate numeric or alpha code used to identify the various zones in this grid coordinate system. See domain values of coordinate system for constraints on the zone numbers.	GridCoordina teSystem	FGDC 6/8/94	char(6)	See Grid Coordinate System Name for domain values	

Abbreviations and Acronyms

CDR	Critical Design Review
CSDT	Computer Science Data Type
DIF	Directory Interchange Format
EDHS	ECS Data Handling System
ESDT	Earth Science Data Type
GCMD	Global Change Master Directory
PDR	Preliminary Design Review
RTF	Rich Text Format
SDR	System Design Review
TRMM	Tropical Rainfall Monitoring Mission
TSDIS	TRMM Science and Data Information System
QA	Quality Assessment

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Glossary

Ancillary Data --Static data found at level 1B and 2 that are common to all products. Examples of ancillary data are digital terrain maps, land/sea data, climatology data, and digital political maps.

Source: 194-207-SE1-001

--Any data used as input to product generation, which is not the main data being transformed.

Source: 420-TP-001-005

Static ancillary data are updated very infrequently in comparison with the granule generation interval.

Dynamic ancillary data are updated at the same or similar time interval to the generation rate of the product granule which it supports.

Affiliated Data Center (ADC) A facility not funded by NASA that processes, archives, and distributes Earth science data useful for global change research, with which a working agreement has been negotiated by the EOS program. The agreement provides for the establishment of the degree of connectivity and interoperability between EOSDIS and the ADC needed to meet the specific data access requirements involved in a manner consistent and compatible with EOSDIS services. Such data-related services to be provided to EOSDIS by the ADC can vary considerably for each specific case.

Algorithm Software delivered to the SDPS by a science investigator (principal investigator, team leader, or II) to be used as the primary tool in the generation of science products. The term includes executable code, source code, job control scripts, as well as documentation.

Bibliographic Reference Papers A record of the use of data products, documentation on the generating algorithms and other reference material.

Source: 194-207-SE1-001

Browse Subsets of a larger data set generated for the purpose of allowing rapid interrogation of the larger data set by a potential user.

Source: 194-207-SE1-001

Browse Product

A granule or collection of granules which serve as a predefined, reduced resolution aid to ordering of one or more full resolution ECS granules.

Source: 420-TP-001-005

Collection

A set of logically related earth science data types which the user can see through the various pyramid layer views.

Source: 194-207-SE1-001

A collection is any logical grouping of granules chosen by a data provider for advertisement in ECS as a collection. A granule may end up "belonging" to several collections.

Correlative Data

Scientific data from other sources used in the interpretation or validation of instrument data products, e.g. ground truth data and/or data products of other instruments. These data are not used for processing instrument data.

Source: Unknown

Data Object

Delivered Algorithm Packages

The full content of data and information delivered by a data producer during the process of standard product Algorithm Integration & Test, including all elements defined as minimum content within Volume 4 of the Science User's Guide, available at PDR.

Source: 194-207-SE1-001

Directory

A collection of uniform descriptions that summarize the contents of a large number of datasets.

Source: 194-207-SE1-001

Engineering Data

Measurements transmitted from an instrument which reflect the status and conditions of the instrument and/or platform.

Conceptual Object Model

Captures the complete meaning of information stored at various Distributed Databases.

Derived from: "A Framework and Comparative Study of Distributed Heterogeneous Database Management Systems", S. Bhalla, E. Prasad, A. Gupta, S. Madnick, A.P. Sloan School of Management , MIT Industrial Liaison Program, Report # 5-45-88

Granule	The smallest aggregation of data that is independently managed (i.e., described, inventoried, retrievable.) Granules may be managed as logical granules and/or physical granules. *Source: 423-41-02*
Guide	A detailed [document] description of a number of data sets and related entities, containing information suitable for making a determination of the nature of each data set and its potential usefulness for a specific application. *Source: 194-207-SE1-001*
In-situ data	Data measurements gathered at a particular ground-based site, which will be used in ECS as calibration or validation of the remotely sensed data. *Source: 420-TP-001-005*
Inventory	A uniform set of descriptions of granules from one or more data sets with information required to select and obtain a subset of those granules. *Source: 194-207-SE1-001*
Inventory Characterization	Enhanced content-based metadata describing granules or aggregations of granules (phenomenology data bases, super-granules, feature tags, etc.) *Source: 194-207-SE1-001*
Level 0 Data	Raw instrument data at original resolution, time ordered, with duplicates removed. *Source: 194-207-SE1-001*
Level 1A Data	Level 0 data which may have been reformatted or transformed reversible, located to a coordinate system, and packaged with needed ancillary and engineering data. *Source: 194-207-SE1-001*
Level 1B Data	Radiometrically corrected and calibrated data in physical units at full instrument resolution as required. <u>Ancillary data</u> is also found at this level. *Source: 194-207-SE1-001*
Level 2 Data	Retrieved environmental variables (e.g., ocean wave height, soil moisture, ice concentration) at the same location and similar resolution as the Level 1 source of data. <u>Ancillary data </u>is found at this level. *Source: 194-207-SE1-001*

Level 3 Data   Data or retrieved environmental variables that have been spatially and/or temporally re-sampled (i.e., derived from Level 1 or Level 2 data products). Such re-sampling may include averaging and compositing.

Source: 194-207-SE1-001

Level 4 Data   Model output and/or variables derived from lower level data which are not directly measured by the instruments.

Source: 194-207-SE1-001

Production History   A record of each step in the creation of a particular product identifying generating algorithm, inputs, and other variables.

Source: 194-207-SE1-001

QA Statistics   Quality indicators associated with an individual data product including drop-outs, data gaps, out-of-range values, etc.

Source: 194-207-SE1-001

Summary Statistics   The set of statistical representations of individual data products, summarizing values over a set of granule instances of the product, such as min/max values, means, m standard deviations.

Source: 194-207-SE1-001